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ABSTRACT

The report is divided to cover: introductory material, management of Virginia's state-supported institutions of higher education, the coordination and governance of higher education in Virginia, the relationship between Virginia's private institutions and the state, legal education and manpower requirements in Virginia, and proposed legislation. Appendices include reports submitted to the Commission by the State Council of Higher Education and a state level management, planning, and coordination review. (MJM)

ED 089 321

# Report of the
# GENERAL ASSEMBLY COMMISSION ON HIGHER EDUCATION
# to
# THE GENERAL ASSEMBLY OF VIRGINIA

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COMMONWEALTH OF VIRGINIA
Department of Purchases and Supply
Richmond
1974

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# REPORT OF THE GENERAL ASSEMBLY
# COMMISSION ON HIGHER EDUCATION

Richmond, Virginia
January 14, 1974

## I. INTRODUCTION

TO The General Assembly of Virginia

Enrollment in Virginia's state-supported institutions of higher education has increased from 64,111 in 1966 to 149,422 in 1973. Over these same years, appropriations for higher education have grown even more rapidly. In the 1966-68 biennium, the appropriation was approximately $325 million: $182 million from the General Fund (tax revenues) and $143 million from special funds (tuition, fees, and other sources). In the present biennium, this appropriation exceeds $835 million: $457 million from the General Fund and $380 million from special funds. At the present time, almost 17 percent of the operating expenses from the General Fund of the Commonwealth are appropriated to our state-supported system of higher education. Although Virginia has many fine institutions of higher education and many outstanding educators, it has become apparent to the General Assembly that the higher education community in Virginia is not well enough coordinated to meet the total needs of the Commonwealth. During the 1972 session of the General Assembly, therefore, the late Senator William F. Stone introduced Senate Joint Resolution No. 21 to create a Commission on Higher Education. The resolution, which was overwhelmingly passed in both houses of the General Assembly, reads as follows:

### Senate Joint Resolution No. 21

Creating the General Assembly Commission on Higher Education to study certain matters.

Whereas, Virginia has many high quality State-supported institutions of higher learning; and

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Whereas, the financing of these institutions, as well as the other diverse services provided by the Commonwealth, is a heavy responsibility; and

Whereas, such financing should be organized and coordinated, so as to maximize cooperation among such institutions, minimize competition for funds, and promote the development of an overall plan for higher education; now, therefore, be it

Resolved by the Senate of Virginia, the House of Delegates concurring, That there is hereby created the General Assembly Commission on Higher Education, which shall consist of nine members, of whom six shall be appointed by the Speaker of the House of Delegates from the membership thereof and three shall be appointed by the Senate Committee on Privileges and Elections from the membership of the Senate, for the purpose of examining the system of higher education in the Commonwealth. It shall, among other things, consider possible improvements in the method of determining the financing of the institutions, in the coordinated planning of the higher educational program, and in the establishment of priorities in the development of a more unified higher educational system.

All State agencies and institutions shall assist the Commission in its work. Members of the Commission shall receive no compensation for their services, but shall receive their reasonable expenses in performing the work of the Commission, for which, and for such other expenses as may be required, including secretarial and other professional assistance, there is hereby appropriated from the contingent fund of the General Assembly a sum sufficient, estimated at ten thousand dollars. The Division of Statutory Research and Drafting shall serve as secretariat to the Commission.

The Commission shall complete its study and report to the General Assembly not later than November one, nineteen hundred seventy-three.

Pursuant to Senate Joint Resolution No. 21, the Privileges and Elections Committee of the Senate appointed Senators Paul W. Manns of Bowling Green, William F. Stone of Martinsville, and Edward E. Willey of Richmond to serve on this Commission; the Speaker of the House of Delegates appointed Delegates Richard M. Bagley of Hampton, Archibald A. Campbell of Wytheville, Ray L. Garland of Roanoke, W. L. Lemmon of Marion, D. French Slaughter of Culpeper, and W. Roy Smith of Petersburg to serve. Senator Stone was elected Chairman and Delegate W. Roy Smith

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was elected Vice-Chairman. After the death of Senator Stone on August 19, 1973, Senator Willey was elected Chairman to succeed him.

The Division of Legislative Services, represented by Messrs. John A. Banks, Jr., and Robert W. Bendall, served as secretariat of the Commission. Dr. Daniel E. Marvin, Jr., Director of the State Council of Higher Education, and his entire staff, as well as Mr. L. M. Kuhn, Legislative Fiscal Officer, provided valuable staff assistance to the Commission.

During the Commission's two years of study, the members spent considerable time and effort acquainting themselves in detail with the problems of higher education in Virginia.

As a result of the members' independent study, consideration of testimony gathered in meetings with college presidents and the Commission's consultants, the Commission has concluded its study and is prepared to report at this time.

The Commission wishes to call attention to the supplementary material in Section VIII of its report. This material includes a "State Level Management, Planning and Coordination Review" by Donald Shaner and Associates, consultants to the Commission; and Reports submitted to the Commission by the State Council of Higher Education. The Commission wishes especially to emphasize the Council of Higher Education's report on "Legal Education and Manpower Requirements in Virginia," and to endorse the conclusions reached in that report.

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# II. MANAGEMENT OF VIRGINIA'S STATE-SUPPORTED INSTITUTIONS OF HIGHER EDUCATION

A part of the Commission on Higher Education's approach to determining the most appropriate state-level system of management, planning and coordination was to study the management of each state-supported, four-year college and university. This study covered each institution's organizational structure, financial management and control, long-range planning, data processing and systems, space utilization, auxiliary enterprise operations, materials management, personnel management, physical plant operations, and library activities. Based upon a broad knowledge of activities in each college and university, the Commission sought to determine the changes necessary at the State level to fulfill the needs of the institutions and of the system as a whole.

The consultant firm of Shaner and Associates was employed to conduct this part of the Commission's study. These consultants filed with the Commission a preliminary report on each institution. The Commission then transmitted the consultants' preliminary findings to the institutions and requested that they be reviewed. Each institution appeared before the Commission to discuss the preliminary findings and filed a response to them with the Commission. This information was shared with the consulting firm which then revisited the institutions and prepared final institutional reports. From the data collected at each institution, the consultants prepared a comprehensive report addressing statewide coordination and system-wide management practices. (This report is appended.)

The Commission's consultant firm pointed to several management problems that exist, to one degree or another, in the majority of the State's institutions of higher education. In a number of instances, the deficiencies are not the result of institutional policies but rather will require changes in State policy and/or changes in centralized State activities which affect the several institutions. There are also recommendations of the Commission affecting the State Council of Higher Education which treat these management problems.

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In certain other instances, the consultants made recommendations for improvement in specific management functions at individual institutions. Several of these recommendations have already been adopted by the institutions and the Commission is pleased with the cooperation which the institutions have shown. It was not possible, however, for the Commission, in the time available to it, to consider carefully and formulate corrective recommendations on the numerous individual observations made by the consultants. Nevertheless, the Commission believes that some of the matters highlighted by the consultants are of great potential significance.

Therefore, the Commission recommends that the General Assembly's Joint Legislative Audit and Review Commission, with the benefit of the considerable background work already accomplished, take these matters under study and report to the 1975 Session.

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# III. THE COORDINATION AND GOVERNANCE OF HIGHER EDUCATION IN VIRGINIA

Virginia's support of public higher education extends back to 1796. In that year, a proposal made by Thomas Jefferson was enacted initiating the provision of public funds for elementary schools and leading to the subsequent founding in 1819 of the University of Virginia. In 1908, the General Assembly of Virginia established the Virginia Education Commission. The commission's purpose was to develop recommendations designed to coordinate financial support for the growing state system of higher education. One of the recommendations presented in 1912 was

> "That a permanent education commission be created by the Legislature with power to cooperate with the presidents and boards of visitors for the several state institutions of learning in the state and others in authority, in carrying out whatever recommendations this General Assembly may adopt or other matters which may be referred to it by the Legislature."

However, this recommendation was not implemented until 44 years later when the State Council of Higher Education was established in 1956. The legislation establishing the Council called for it to "promote the development of a sound, vigorous, progressive and coordinated system of higher education in the State of Virginia." (Code of Virginia, Volume 5, §23-9.3). The powers given to it by the legislation are, however, mostly advisory; it is, by design, a coordinating council which has almost no direct control over Virginia's institutions of higher education.

Since its creation, the Council of Higher Education has attempted to coordinate the several state-supported institutions. It is the opinion of the Commission that the Council has failed to bring about the necessary coordination to achieve a system of higher education which can meet the needs of Virginia's citizens in an efficient manner.

For this reason, the Commission gave serious consideration to the questions: What is the best possible system of higher education for Virginia? How can the State's desire to provide quality higher education in the most efficient way be implemented?

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## 1. The Need for Statewide Coordination

Higher education in Virginia has undergone a period of very rapid development beginning in the early Sixties and continuing to the present. This development has resulted in expansion of our state-supported institutions in the areas of enrollment, academic programs, physical facilities, and financial resource requirements. This growth has occurred without statewide coordination sufficient to prevent duplicated efforts. During the past ten-year period, many far-reaching changes have occurred in response to the rapid increase of enrollment in Virginia's institutions of higher education. Especially during the early part of the 1960s, the higher education community was called upon to accommodate a great influx of students. In order to meet this challenge, the Commonwealth of Virginia authorized the escalation of Christopher Newport College, George Mason University, and Clinch Valley College to four-year, senior colleges, created separate governing boards for Mary Washington College, George Mason University, Norfolk State College, and Radford College, and established a major state university in Virginia Commonwealth University by merging the Medical College of Virginia and the Richmond Professional Institute. In addition, in 1966 the Commonwealth initiated the Virginia Community College System and by 1973, twenty-three new institutions of higher education have been developed. All this has occurred without any substantial increase in effective statewide coordination.

Examples of lack of coordination are too numerous to mention; however, some of the most obvious may be stated. Academic programs, particularly at the graduate level, have been proliferated to the point where a significant number of such programs are non-productive. A 1971 study by the State Council of Higher Education indicated that sixteen doctoral and twenty-one master's degree programs in our state institutions failed to produce a single degree in a five-year period. The State Council forcefully brought these data to the attention of the institutions and encouraged them to discontinue non-productive programs. However, under the present statue, this is the maximum authority which the State Council of Higher Education can exercise in this area. As of this time, only a very few of these programs have been voluntarily discontinued by the institutions.

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It is very difficult to estimate the cost to Virginia of these thirty-seven graduate programs, but considering teaching staff, library and research laboratories, it seems safe to assume that a large number of dollars has been invested with no productivity or measurable benefit to the State.

During this period of rapid growth, capital projects in our institutions have increased and we now find ourselves with a significant number of institutions which have available space (built with general tax revenues) which is in excess of the amount needed for their current enrollment and in excess of the need indicated by their projected enrollments through 1982. For example, using currently accepted statewide formulae, one college has 2,200 students and classroom space for a student body of 4,600. Another has classroom space for a student body of 7,300 and its projected enrollment in 1982 is only 5,700. A third has laboratory space for a student body of 13,000 with maximum projected enrollment of 7,400. In addition, this Commission has learned that no statewide agency approves changes in the inventory of space in institutions. By shifting space from one category to another, a deficit of space in certain categories could be maintained and thus used to justify the need for new buildings. One institution originally proposed an academic building for 1974-76 without a single office since it already had excess office space according to the accepted standards.

Not only is there a serious problem of overall excess facilities, but there is the additional problem of geographical imbalance. As a result, additional facilities are needed in some areas of the State while excess facilities exist in others. There are 70 institutions of higher education in Virginia; 31 are private, 15 are state-supported four-year colleges and universities, and 24 are state-supported two-year colleges. Nine of these facilities are within 50 miles of Roanoke. There are also nine colleges within 25 miles of Norfolk, and plans are currently underway for locating a major community college campus in that city. This Commission is not suggesting that all new construction and expansion at institutions of higher education should be abruptly terminated. The existence of excess general classroom space does not rule out the possible coexistence of a genuine need for other kinds of buildings on the same campus. Also, as noted, there is a problem of geographical

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imbalance, with certain institutions having demonstrable need for additional space in spite of the existence of excess space at other institutions in entirely different areas of the State.

These are only a few examples and are cited not to indict individual colleges or persons, but to point up the need for strengthened statewide coordination of higher education to ensure that imbalances are corrected and that the State's resources are directed toward meeting the growth that will occur in higher education during the rest of this decade. While the rate of growth of Virginia's student population has slowed, the number of students is continuing to increase; total enrollment is projected to increase by about 33 percent by 1978: from the current figure of 149,422 to slightly over 200,000 (See "Higher Education Enrollment and Projected Enrollment, 1960-1982," State Council of Higher Education).

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## 2. Institutional Governance and Statewide Coordination

It is always helpful to look at the experience of other states and their efforts to solve their problems in gaining insight to the solution of Virginia's problems. The situation described earlier in the Introduction is not markedly different in many states. All states experienced the very rapid growth and development of higher education following the "baby boom" of the post-war years. More than thirty states have examined the question of statewide coordination or governance in the past three-year period. These studies, although varied, and depending largely on local circumstances, have established two major alternative approaches for solving the problem:

(1) The establishment of one central governing board for all state-supported institutions of higher education resulting in the elimination of local policy boards, although advisory boards may continue to exist;

(2) The establishment of a central coordinating council with the necessary authority to coordinate higher education in the state while retaining individual governing boards for the several institutions.

It may be helpful to examine the actions of surrounding states which have just recently studied this question.

North Carolina gave serious study to this problem during 1971-72. The North Carolina Legislature acted in 1972 to establish a single governing board for all state-supported institutions of higher education. Kentucky studied the question of statewide coordination and governance during the period 1970-72 with the result that the statewide coordinating commission was maintained with increased membership and broadened responsibilities and authority. West Virginia considered this issue in 1968-69 and established a single statewide governing board for all state-supported institutions of higher education. Tennessee, after considerable study, elected to strengthen its statewide coordinating commission, while Alabama just recently established a strong coordinating Council. Louisiana, during its 1973 legislative session, established a board of regents effective June 1, 1974.

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In summary, the statewide coordination and governance varies between and among the states. The following table, taken from the Education Commission of the States, shows the kind of coordination or governance for those states participating in the Southern Regional Education Board.

| | Type of Statewide Board | |
|---|---|---|
| | Coordinating | Governing |
| Alabama | X | |
| Florida | | X |
| Georgia | | X |
| Kentucky | X | |
| Louisiana | | X |
| Maryland | X | |
| Mississippi | | X |
| North Carolina | | X |
| South Carolina | X | |
| Tennessee | X | |
| Texas | X | |
| Virginia | X | |
| West Virginia | | X |

Historically and traditionally, Virginia's higher educational system has been one in which each individual institution has enjoyed complete autonomy. Eleven of the senior state-supported institutions have their own individual governing boards which are responsible for only one institution. The University of Virginia's governing board is also responsible for another four-year institution, Clinch Valley College, while the governing board of The College of William and Mary also governs Christopher Newport College, a senior institution, and Richard Bland College, a two-year institution. The remaining twenty-three state-supported institutions are community colleges, all of which are governed by a single major sector board, the State Board for Community Colleges.

In the public sector, regardless of whether it answers to its own individual board, to the board of its parent institution or to a statewide board for community colleges, each institution is subject in certain limited respects to the statewide coor-

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dinating council (the State Council of Higher Education) and, therefore, should theoretically be part of a coordinated structure.

Although it can be said that all state-supported institutions are subjected to the State Council of Higher Education in certain limited areas, the major policy decisions affecting these institutions are made by the boards of visitors of those institutions. The boards of visitors in Virginia enjoy a special autonomy and are largely free to operate the institutions in any way they deem appropriate within the board guidelines laid down by the Governor and the General Assembly. In short, the Governor and the General Assembly have authority, but exercise little except that of appropriations. The State Council of Higher Education, established in 1956, has enjoyed increasing but sometimes reluctant cooperation of the institutions of higher education and has insufficient authority to require necessary self-regulation.

What is the best course for Virginia to follow in order to provide higher education opportunities to an increasing percentage of people within an expanding population, while at the same time avoiding wasteful expenditures occasioned by unnecessary duplication of educational offerings and capital expansion? It would appear to this Commission that there are three potential alternatives: One, to have no central coordination or control; two, to establish a statewide controlling board for all state-supported institutions; three, to give the existing Council of Higher Education the authority it needs to effectively coordinate and direct higher education and to clearly establish the Council as the agency responsible for statewide policies for higher education in Virginia. Experience has made it abundantly clear that higher education has reached a point--nearly 150,000 students attending 39 institutions on 48 separate campuses--where reasonable coordination is imperative.

The idea of one centralized board to control all public higher education is not a new one to the General Assembly and has been recommended for Virginia in comprehensive studies of higher education in 1928 and again in 1947. Arguments for single governing boards are similar in all states. Lines of authority are readily understood, since they run exclusively to the governing board. There is no confusion of functions or authority between the governing board with its operating responsibilities for its

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institution and a coordinating body having power in the areas of evaluation and planning; coordination and control are synonymous. Centralized planning and direction for institutional development occurs and needless duplication of programs,

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staffing and facilities can be avoided. Despite the merits of these arguments for a central controlling board, this Commission feels, after thorough deliberation, that the best approach for Virginia would be a system of centralized coordination rather than one of centralized governance. This approach, of course, will require the cooperation of all institutions in the state. The Commission recognizes that if this approach is to succeed, the State Council of Higher Education must be strengthened.

There are many reasons why the Commission has taken this position. In reviewing the question of centralized governance versus coordination, and relating higher education as it's exists in Virginia to the advantages and disadvantages of these two organizational approaches, it is the Commission's conclusion that a system of coordination offers the most advantages to Virginia. The large number (39) and varying types of state-supported institutions, and the question of how effectively and efficiently a central governing board could administer all of them, are significant factors. The advantage of involving the largest possible number of knowledgeable lay persons in the development of higher education through participation on individual governing boards is also a strong consideration. In addition, even American business, so often pointed out as an example to higher education administration, is coming to the conclusion that decentralized operational approaches are the most effective as long as they are guided by overall policies and procedures which insure the achievement of the objectives and protect the interests of the total enterprise. The closer the manager or administrator is to the operation, the more informed and better decisions he can make.

Another major reason for the committee's support of a structure of statewide coordination and local institutional governance is the need for increased emphasis on state-level planning, a need which will grow more urgent in the 1970s. A consensus seems to exist on the point that a coordinating board is the most effective statewide approach for planning purposes. In short, the strength needed at the state level to meet most effectively the problems of the future is strength in planning an orderly approach to meeting higher education needs in the most efficient manner possible. Plans alone, however, will not insure the maximum utilization of our state's higher education resources. The same body which plans must have the necessary authority,

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in concert with the institutional boards, to implement those plans. In order to maintain the proposed system of centralized coordination as opposed to centralized governing, the Commission finds that the State Council of Higher Education must have increased authority in a number of important areas including approval of changes in institutional missions, approving new academic programs as well as eliminating unnecessary academic programs, and approving projected levels of enrollment, all of which must be commensurate with a statewide plan for higher education. Along with these responsibilities must come a stronger and more specific role in developing and recommending on capital and operating budgets.

Certainly the exercise of any of the above mentioned functions by a central board is to some degree antithetical to institutional autonomy. Under a central coordinating board, however, the loss of autonomy is measurably less than under a central governing board. A strengthened Council of Higher Education can bring about effective coordination while preserving the best of institutional autonomy within a framework of public accountability which recognizes the obligation of the State to meet educational needs and, at the same time, guards against unnecessary duplication, under-utilization of resources and unjustified expansion.

The Commission wishes to address two specific recommendations made by the consulting firm of Donald Shaner and Associates, both of which bear on the issues of possible unnecessary duplication, under-utlization of resources and unjustified expansion.

The first recommendation of Shaner and Associates is that a merger of Radford College and Virginia Polytechnic Institute and State University be seriously considered. This Commission has not determined that a merger would be best, either for the State or for the institutions involved. It further recognizes and commends the measurable progress made at Radford College during the past two years. While the Commission does not believe that it has sufficient information on which to make a judgment about this matter, it does believe that the matter should be studied, and therefore proposes a resolution which would create a special legislative commission to study the desirability and feasibility of such a merger. A proposed resolution, recognizing the apparent duplication

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of facilities and programs at the two institutions, the under-utilization of space at Radford College, and possible financial savings that could result from a merger, will be found in Section VII of this report.

The second recommendation of Shaner and Associates is that Christopher Newport College be closed, and that an investigation be conducted to determine whether its facilities could be better used by the Virginia Community College System. The Commission has considered this recommendation carefully, and does not agree with it; however, the Commission does believe that the coordination of the institutions of higher education in the Tidewater area is a particularly acute need. The Commission further believes that the new coordinating authority recommended in this report for the Council of Higher Education, if accepted by the General Assembly, would enable the Council to deal effectively with the role of Christopher Newport College and, in general, with the problems of higher education in the Tidewater area. The Commission therefore recommends that the Council give initial priority in its coordination efforts to the problems in this area.

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## 3. Specific Recommendations for Strengthening the State Council of Higher Education

### 1. Authority for Academic Programs in State-supported Institutions of Higher Education

The State Council of Higher Education, under Section 23-9.6 of the Code of Virginia, has developed policies and procedures for the review and approval of new degree programs. Under this statute, the State Council has worked cooperatively with the institutions in the review and approval of newly proposed degree programs. Although the language of the existing statute does not specifically state such authority, the Council has construed this statute as its authority to require that each new degree program developed within each state-supported institution of higher education be submitted to the Council for approval prior to implementation.

During the decade of the 1960s, at a time when enrollments were climbing and Virginia was significantly behind the nation in both college-going rates and graduates in many academic areas, the State Council seldom denied any request of an institution of higher education to initiate a new program. During recent years, the Council has recognized the changing trends in enrollment and the significant shift in the supply and demand factor for college educated workers. As a result, the Council has begun to review degree programs in this new light, and has recently instituted a review procedure which requires a two-year planning cycle. A significant number of proposed programs have either been denied by the Council or withdrawn from consideration voluntarily by the institutions after the Council raised questions concerning the need for such programs. This is more clearly illustrated by the fact that the Council approved only three requests out of nine to initiate doctoral programs for the fall of 1972 (more than a dozen other programs were withdrawn after initial discussions with the Council staff), and approved no requests for planning approval to initiate doctoral programs for the fall of 1973. It is clear that the development of academic programs in state-supported institutions needs to be carefully coordinated and continually reviewed if unnecessary duplication of effort is to be prevented and if we are to develop outstanding institutions, each with its own unique academic competencies.

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In investigating this area, the Commission discovered three other important factors which argue well for increased authority to be placed with the State Council of Higher Education.

First, institutions apparently have attempted to bypass the existing State Council's procedures for academic program approval by developing sequences of courses, hiring faculty, establishing a library, and recruiting students in advance of requesting approval of the Council. In such cases, the request for approval to the State Council has been only token approval since the Council has been faced with a fait accompli.

Second, the Community College System was created to provide college transfer and technical-occupational programs that would meet the needs of particular geographic areas. However, the offering of a full range of transfer programs on all campuses has resulted in course offerings which are duplicative of those offered by state-supported senior institutions in some areas of the State. The Commission recognizes that the philosophy of the community colleges requires that they offer a reasonable number of transfer programs, but believes that the Council should avoid duplication where it causes severe problems. The Commission notes that such actions by the Council should involve the cooperation of the various institutions affected and a most careful consideration of the differing missions of the senior institutions and the community colleges.

Third, the State Council has completed studies of degree program productivity at the graduate level and as mentioned earlier in this report, has found significant numbers of programs with a low number or no degrees being conferred. Such programs continue to drain resources of the institutions and the State and should be eliminated.

For these reasons, the Commission believes that the State Council of Higher Education should have the power to approve or disapprove all new academic programs, divisions, schools or other academic units proposed by state-supported institutions of higher education. The Council should also have the power to discontinue academic programs, divisions, schools within institutions or other academic units determined by the State Council to be unnecessarily duplicative or non-productive.

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2. Authority for the State Council of Higher Education as the State's Planning Agency for Higher Education.

At present, the State Council of Higher Education is charged in Section 23-9.6 of the Code of Virginia with "preparing plans under which the several state-supported institutions of higher education of Virginia shall constitute a coordinated system." This statutory charge to the State Council seems to mandate that the Council should be a long-range planning and coordinating agency, but fails to spell out specific responsibilities in this area.

If Virginia higher education is to be "sound, vigorous, progressive and coordinated," Virginia must have the benefit of increased long-range planning and coordination. This necessary long-range planning can best be achieved through the development and evaluation of a master plan for Virginia higher education. Although the Council is charged with this responsibility in part, the Council is not required to update the plan on a regular basis or to submit its plans for higher education to the Governor and the General Assembly. The Governor and the General Assembly should receive such plans on a regular basis. It is at this level that the people of Virginia can become fully informed of the State's plans for higher education. A critical aspect of master planning is the development of specific "mission statements" for each of the several state-supported colleges and universities.

Working from the legislation which created them, the stated missions of Virginia's institutions are presently determined by the respective boards of visitors. Because institutional missions are not specifically addressed in the Code, the Council is powerless in this important area. While the General Assembly is the final authority on institutional missions, it seems to the Commission that institutions should be required to have changes in their mission statements and their long-range planning documents approved by the Council of Higher Education. In addition, the Council should review the institutional missions every two years and report to the General Assembly, making such recommendations as it deems appropriate. Without this authority, the Council of Higher Education cannot efficiently implement a long-range plan for higher education in Virginia. And

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without an effective plan, higher education will continue to develop in a fragmented way. In order to prevent this, the State Council should be given specific authority in this area.

As the State's planning agency for higher education, the Council must develop a comprehensive data information system. Under the present statute (§ 23-9.6), the Council is "charged with the duty of assembling data and with the aid of the boards and officers of the several institutions, preparing plans under which the several state-supported institutions of higher education of Virginia shall constitute a coordinated system." The Council has attempted to perform this duty and has collected and published data on a wide variety of subjects related to higher education. If the Council is to function effectively as a planning agency, however, it must develop a comprehensive data information system. Information provided through such a system would be readily available to the institutions and to the Governor and the General Assembly. Decisions affecting higher education would be made on the basis of better information. This Commission believes that the State Council of Higher Education should be statutorily charged with the responsibility of developing a data information system which would include information on admissions, enrollments, personnel, programs, financing and facilities, and other areas necessary to comprehensive planning. Institutions should be required to submit to the Council such information in the form requested.

### 3. Authority for Determining Enrollment Levels in Virginia's State-supported Colleges.

Higher Education enrollments across the nation are leveling off and in Virginia the rate of growth is slowing. While enrollments in many states have already begun to decline, Virginia's enrollment will increase by about 50,000 students by the end of this decade, will level off for several years, and then will decline slightly until about 1985. Enrollments will then begin to increase slowly over the next several years. Because the number of potential students will decrease, every significant increase in enrollment in one institution of higher education will have an effect on the enrollment in some other institution. As stated earlier in this report, adequate facilities already exist in many of our state-supported institutions for projected enrollments through the 1980s. If institutions are allowed to project their enrollment increases without statewide coordination, significant growth at one institution may actually cause vacancies to exist at another institution. Consequently, enrollment projections must be coordinated among and between institutions. If left without coordination, enrollment projections may become a measure of institutional aspiration.

Nowhere in the Code of Virginia is the State Council of Higher Education charged with the responsibility of coordinating the enrollments of state-supported institutions of higher education. Although it is clearly recognized that the admission policies of each institution should be set by the institution itself, the enrollment of these institutions must be coordinated in order to allow the system to function with maximum economy, efficiency and quality. For this reason, it is important that the State Council's role in approving enrollment projections by level of enrollment be recognized by statute and strengthened. The State Council of Higher Education, in approving enrollment projections, should also have the authority to set maximum and minimum enrollments at state-supported institutions.

Because enrollments are the principal driving factor in budgetary consideration, there is a tendency for institutions to aspire to grow just to increase their budgetary support. This Commission recognizes the "pressure to grow" but also recognizes the desirability of smaller institutions where the individual can become an integral part of the academic community. Because Virginia has established a significant number of institutions of higher education and because enrollments are projected to level off, Virginia has an opportunity to maintain these smaller institutions.

The Commission has noted that various studies made by educational authorities recommend a maximum size of 5,000 to 10,000 students for comprehensive colleges and 10,000 to 20,000 students for doctoral granting institutions. Even with the varying opinions about maximum institutional size, the Commission does not believe that optimum size and maximum size are necessarily the same. The Commission realizes that frequently a smaller size enables a student to become an integral part of the academic community, and this can be important in providing quality education. The Commission believes that smaller institutions can serve just as effectively as compre-

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hensive colleges and universities. In exercising its authority to set maximum size, the Council should consider all factors, including the learning environment provided for students and relationship between students and the community in which the institution is located.

The Commission believes enrollment projections by level should be made initially by the several institutions of higher education and submitted to the State Council for its approval. Once approved, these figures should be used by institutions, the Council of Higher Education, the Governor and the General Assembly in planning and budgeting for higher education, and the institutions should be expected to achieve the enrollment projected.

4. Authority in the Area of Capital Outlay and Operating Budgets.

The State Council of Higher Education as the planning and coordinating agency for state-supported institutions of higher education in Virginia should have increased statutory responsibility in reviewing budget requests from individual institutions. This increased responsibility should include capital outlay as well as operating budgets.

Currently, capital outlay requests of the institutions of higher education are submitted to the Governor and reviewed by the Division of Engineering and Buildings. With the advent of the space utilization guidelines, the State Council of Higher Education has assisted the Division of Engineering and Buildings in the review of capital outlay requests and the Council has delivered recommendations to the Division of Engineering and Buildings for final transmittal to the Governor.

It is recognized that the Division of Engineering and Buildings must have final responsibility for the capital outlay recommendations to the Governor in the preparation of the executive budget.

The capital-outlay requests from institutions of higher education are based upon need as projected in the space planning guidelines developed by institutions of higher education and the Council of Higher Education for the Capital Outlay Coordinating

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Commission. Projected needs are evaluated against the space already available or under construction at the institutions. The State Council of Higher Education currently maintains the inventory of space in the institutions and analyzes requests for capital outlay. In the future, copies of capital outlay requests should be submitted directly to the State Council of Higher Education and the Council's recommendations should be submitted to the Governor and the General Assembly. In this way, the responsibility for recommending capital outlay for the institutions of higher education would rest clearly with the State Council of Higher Education, and the Division of Engineering and Buildings would continue to maintain the final responsibility of coordinating and recommending on requests from all state agencies.

Finally, the Council should be given the responsibility of auditing the space inventory of state-supported institutions of higher education and the institutions should be required to receive Council approval prior to making changes in their inventories which could affect capital outlay requests.

The responsibility for preparing the Executive Operating Budget for the State rests with the Division of the Budget. Higher education cannot be set off by itself and budgeted separately without compromising the principle of executive budgeting. On the other hand, the General Fund appropriation to higher education continues to increase and now represents nearly 18 percent of the total 1972-74 appropriation. In addition, the very nature of higher education is sufficiently different from that of other state agencies or institutions to require sophisticated educational decisions in the planning and budgeting process. This Commission believes the State Council of Higher Education should have an increased role in advising both the executive and the legislative branches on matters pertaining to budgeting for higher education.

This Commission endorses the use of guideline budgeting for higher education and commends the Division of the Budget and the State Council of Higher Education for the progress made in this direction. Not all areas are now budgeted by guidelines, however. Additional guidelines should be developed to identify diverse educational

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needs in a consistent manner. Because guidelines express educational needs in financial terms, the responsibility for developing such guidelines should rest with the State Council of Higher Education. The Council should seek the advice of the institutions and should ensure consistency in general format with the Division of the Budget. The Council should also have the final authority for approving those guidelines which will be applied in the operating budget-making process.

The Council of Higher Education should also have an increased role in the review of the budget requests of the institutions. Selected budgetary information, prepared from the guidelines developed by the Council of Higher Education, should be submitted to the Council prior to their submission to the Division of the Budget. The Council should review this information and make its recommendations for each institution to the Division of the Budget and the General Assembly. It is recognized that timing is critically important and the Council must receive the information early enough to have its recommendations fully considered by the Division of the Budget. The current provisions of § 23-9.9 of the Code contemplate this procedure, but these provisions have in the past been nullified by provisions in the appropriations acts which regulate future budgetary preparations. The Council must have adequate time to review and make recommendations on institutional budgets prior to the final preparation of the executive budget. For this reason, the General Assembly should be careful not to negate the provisions of § 23-9.9.

It is not the intention of this recommendation to establish the Council of Higher Education as the final authority in preparation of the executive budget for higher education. Neither is it intended to establish the Council as a statewide budget administrator for institutions of higher education. This recommendation is intended to ensure that the Council's recommendations on institutional budgets become an integral part of the executive budget review. Finally, the Council should deliver its recommendations to the General Assembly after submission of the executive budget. In this way, the General Assembly will have the benefit of the institutions' requests, the Council's recommendations, and the executive budget as it makes its final decisions on appropriations.

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5. The State Council Staff.

At present the staff of the State Council of Higher Education consists of only fourteen professional staff members. In educational background, experience, and duties performed, the professional staff of the State Council is similar to the professional staff of the colleges which the Council coordinates. The Council has been characterized in recent years by high turnover of staff which has seriously impaired the work of the Council. If the recommendations of the Commission are implemented, the staff of the Council must be expanded and its stability must be assured. The staff of the State Council should be remunerated at a rate equivalent to their professional counterparts in state-supported institutions, and the Director should be compensated at a rate equivalent to the presidents of the University of Virginia and Virginia Polytechnic Institute and State University. The State Council of Higher Education should be requested to reconsider its budget request for 1974-76 in light of these new responsibilities and submit a revised budget consistent therewith.

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## THE RELATIONSHIP BETWEEN VIRGINIA'S PRIVATE INSTITUTIONS AND THE STATE

There are in Virginia 26 private four-year institutions of higher education and six private two-year institutions. These institutions enrolled approximately 16,000 Virginia residents in the fall of 1973, or about 12 percent of all Virginians enrolled in institutions of higher education within the Commonwealth.

In total, about 41,000 Virginians attend private institutions of higher education, both within the Commonwealth and in other states. The 16,000 enrolled in Virginia's private institutions represent about 38 percent of these students.

Obviously, Virginia's private institutions of higher education provide an important service to the citizens of the Commonwealth and are a valuable resource.

This Commission has given careful consideration to the relationship between these several private institutions and the State. The Commission was directed in its deliberations by the several expressions of the General Assembly on this matter. These expressions of sentiment came from both the 1972 and 1973 Sessions, when the Assembly passed legislation directly related to the State and its interaction with private colleges. They were Senate Bill No. 77 passed in 1972 and Senate Bill No. 640 passed in 1973 which, in effect, expressed the desire of the Assembly to create a tuition equalization plan. Also passed in 1972 and 1973, respectively, were Senate Bill No. 454 and Senate Bill No. 753, which established a program of financial aid, based in part on need, for students attending both private and public colleges. In addition, the 1973 Session passed for the first time House Joint Resolution No. 279 which, if re-enacted in 1974 and approved by the Electorate in referendum, would (1) permit "grants to or on behalf of" students in private colleges as well as loans to those students, and (2) authorize the Assembly to provide for the Commonwealth to contract with private institutions of the kind defined in the Virginia Constitution, Section 11, "for the provision of educational or other related services."

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The Commission employed the services of Dr. John S. Diekhoff, former Academic Dean of Case Western Reserve University and Professor Emeritus at the University, to assist in its consideration of private colleges. The Commission acted to broaden its knowledge of private colleges. A questionnaire was prepared and sent to the presidents of all known private, accredited, nonprofit colleges in Virginia as well as the presidents of all state-supported institutions and certain other concerned groups as the State Council of Higher Education. A copy of this questionnaire is appended.

After receipt of the questionnaires, the subcommittee of the Commission studying private colleges held a public hearing in Roanoke on November 17, 1972. Approximately 15 private college presidents and vice presidents made appearances at this hearing. The Council of Independent Colleges in Virginia, which represents most of the accredited private institutions, submitted information of a detailed nature requested by the subcommittee. A meeting between the subcommittee and an ad hoc committee of the Council of Independent Colleges was held on July 12, 1973, to review this information further. After thoughtful consideration, the Commission states the following findings:

## FINDINGS

1. Virginia has a rich heritage of excellent private and public institutions of higher education.

This subject has been covered exhaustively in many places. One can refer to "State Support for Private Higher Education in Virginia," a report prepared for the State Council of Higher Education for Virginia by the Associated Consultants in Education, to several studies and reports of the Council of Higher Education, to publications of the Council of Independent Colleges in Virginia, to Carnegie Commission studies and to many others for verification of this finding. Suffice it to say that approximately 12 percent of Virginia students attend Virginia's private colleges.

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2. Virginia needs the diversity inherent in a dual system of higher education.

Again, so much has been said along this line that we simply will state it as a self-evident fact. It is not so much that we need the institutions as it is that out student citizens need the variety of choice provided by the smaller private colleges and universities.

3. Higher education resources should be viewed as a whole--public and private.

Today, higher education efforts are largely fragmented. While there is coordination of efforts of public institutions, there is little coordination, formal cooperation or articulation between public and private institutions or between private institutions. Even without State economic aid to private colleges, it is academic and economic waste to permit unqarranted duplication. But as Virginia embarks on its program of using tax money to aid the private colleges, it is incumbent upon the General Assembly to establish a plan to effect coordination and cooperation of all the resources of higher education--a plan which will attain these goals and yet, at the same time, preserve the academic freedom of the private colleges.

Here are some glaring examples of the kind of duplication which currently exist in Virginia:

(a) In one Virginia city, there are two colleges on adjacent campuses, one public, one private. There is duplication of almost everything: laboratories, libraries, computers, faculty, even laundries, and two football stadia. All of these facilities have been built and operated either by tax money or money obtained from taxpayers through their gifts and tuition.

(b) In another area of Virginia, there are four colleges within five miles of each other: three private and one public. Practically all services are duplicated at these institutions.

(c) Many of the State's two-year private institutions offer associate degrees in the health professions, but the Virginia Community College System has developed parallel programs without regard for the proximity of private institutions.

(d) Social work is a crowded field, but one in which some of Virginia's private institutions have offered bachelor's preparation for some time. Now, however, more public institutions are moving into this field, again without regard for the proximity of the private institutions or the crowding of the field.

(e) One public college is now arguing strongly for a bachelor's nursing program, despite the fact that an accredited program is offered by a private institution less than five miles away. The approval of the public college program could result in the death of the established private college program.

(f) One public college offers baccalaureate and master's degree programs in Business and Commerce while a private institution located in the same city offers similar, if not identical programs. Little or no cooperation is evident between the institutions in attempting to provide these services for the Commonwealth.

The public colleges in Virginia are discouraged from the initiation of programs and degrees which constitute unnecessary duplication, as monitored by the State Council of Higher Education. Why should not the private colleges likewise be constrained from the same academic waste? The answer is because to so constrain them would be to deprive them of freedom and autonomy.

This Commission recognizes the value and necessity of preserving the freedom of the independent colleges. There is, however, a solution to the problem, suggested by many of the presidents of the private colleges.

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(1) The views of the private colleges should be made available to the State Council of Higher Education on a regular basis.

(2) Submission of financial data, plans for additional programs, degrees, schools within institutions, courses leading into programs, and additions to physical plants by private colleges to the State Council of Higher Education for advice and counsel, but not for approval or disapproval.

This Commission, having deliberated many hours on this problem which is not unique to Virginia, has the following recommendations to make:

A. The Council shall establish and maintain, and seek the advice of, a Private College Advisory Committee composed of college and university representatives and such other members as the private colleges themselves may select, private colleges in this instance being those whose primary purpose is collegiate or graduate education and not to provide religious training or theological education.

B. All private, nonprofit colleges, chartered by the Commonwealth, and participating in any program of the State which provides financial support to the institutions, or those private institutions which enroll students who participate in financial assistance programs of the State, should submit to the State Council of Higher Education for information, advice and counsel, but not for approval or disapproval, financial data, planned additional programs, degrees, schools within institutions, courses leading into programs, and additions to physical plants.

One method of reducing costs of Virginia's institutions of higher education which has been substantially overlooked for far too long is cost-sharing contracting: public-private, public-public, and private-private.

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Examples in which two or more institutions could contract to mutual advantage are libraries, laboratories, computers, faculty, classrooms, speakers, concerts, drama, T.V. or video tape instruction, and laundries.

For example, Longwood College with a library of approximately 140,000 volumes is five miles from Hampden-Sydney College which has a library with approximately 90,000 volumes. Both libraries are available to the students of each school, but they have not been cross-indexed because of the legal barrier to expenditure of State funds to aid private education. The cross-indexing of libraries and book van delivery between Madison, Bridgewater, Mary Baldwin, Eastern Mennonite, and Blue Ridge Community College, all within 25 miles of each other, would make available to each a library of approximately 220,000 unduplicated volumes.

The State should move to assist this type of cooperation between public and private institutions.

Laboratories and faculty in sophisticated low-enrollment courses should be shared. Computers, or computer services, could also be shared at substantial savings.

If demand warranted, students from Sweet Briar and Randolph-Macon Woman's College could be enrolled in the nuclear physics program offered at Lynchburg College, utilizing the nuclear reactor at Babcock & Wilcox.

We believe that vast potential exists for the development of such joint and coordinated programs in the Commonwealth, in both the public and the private sectors.

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In its brief to the Privilege and Elections Committee, Act of Assembly, 1973, the Council of Independent Colleges said that House Joint Resolution No. 279 would give the General Assembly desirable flexibility in implementing a system of grants directly to the institutions on behalf of Virginia students. The Council said that "this would make it possible, should the Assembly prefer this approach, to operate a grant program with less administration and lower overhead costs. Enabling legislation might apportion grants according to some formula based on the number of eligible students (eligibility depending on the legislation), hours of instruction, cost of instruction, classification of student (e.g., freshman), kind of academic program, and such other criteria as the General Assembly might wish."

Therefore, we strongly recommend that the 1974 Session of the General Assembly again pass House Joint Resolution No. 279, amendment to Section II, Article VII, of the Constitution, to permit contracting between and among Virginia's institutions of higher education. This approach can be a means of providing financial aid to private colleges.

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## Aid to Private Higher Education

1. The rate of inflation coupled with the peaking of student enrollment is creating a financial squeeze for all colleges and universities.

2. Public institutions have been able partially to meet this problem with somewhat higher tuition and with greatly increased state aid. Because of the greatly increased state aid, the public institutions have not had to increase their tuition charges at the rate of the private institutions. This has meant that the gap between the two has become greater. As a result, larger numbers of middle income students have had to narrow their choice more and more to public schools.

   Surveys conducted by the private colleges have shown that many students who wished to go to those schools and were offered admittance, went instead to public colleges because of financial considerations.

   The Carnegie Commission in a very recent report stated that "the competition between public and private institutions is now too heavily based on price considerations alone. Both systems would benefit if the competition were based more on quality of effort."

3. The private institutions, on the other hand, have had to attempt to meet the financial crisis almost entirely from belt tightening and sharply increased tuition charges. The gap in tuition has generally kept the enrollment in private colleges static or has caused actual drops. It has also caused them to devote more and more of their resources to financial aid. All of this causes a circular relationship, each part of which feeds upon the other.

   Ond institution, for instance, indicated that student fees which accounted for 43.22 percent of income from primary sources in 1959-60 had increased to 62.50 percent in 1972-73. At the same time total aid increased from about $185,000 for 207 students in 1962-63 to about $360,000 for 249 students in 1972-73.

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4. A result of the above factors might well be that some private institutions will have to close their doors, merge, or greatly reduce the quality and number of their offerings if solutions are not found. One rather startling study by one Virginia private college showed that with present trends, tuition income would have to go from about $2,016,000 for 694 students in 1972-73 to $2,263,771 for only 660 students in 1977-78. Even with this increase, a deficit would build up over that time amounting to over $1,000,000.

Closing the doors of some of the private in Virginia would be a tragedy to Virginia citizens hoping to be able to exercise a choice.

5. It would be costly to the Commonwealth if the public had to assume the much larger costs of education for all or most of those attending private colleges. The average operational subsidy from state funds for each student going to a public four-year college this year will be about $1,300. Multiplying this figure by 16,000 students, the total annual cost is almost $21,000,000, money the Commonwealth would have to appropriate if these students were in public institutions. In addition, Virginia would have to appropriate sizable capital outlay money to make room for these students.

Because of the five factors mentioned above, the Commission believes that the tuition equalization program enacted at the 1973 Session offers the promise of becoming an effective program to redress the competitive disadvantages from which the private colleges now suffer. But the General Assembly should keep an open mind on alternatives which may be even more effective in carrying out its clearly expressed desire to give the young men and women of Virginia a fair choice between the public and private sectors in the selection of an institution of higher learning.

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# V. LEGAL EDUCATION AND MANPOWER REQUIREMENTS IN VIRGINIA

In the spring of 1973, the late Senator William F. Stone, in his capacity as chairman of this Commission, requested the Council of Higher Education to conduct studies in several areas of interest to the Commission. One of these areas was legal education and manpower requirements in Virginia. Because of the continued discussion about the need for new law schools in the State, the Commission has addressed this question in this section of its report.

Virginia has the fourteenth largest population among the 50 states. It is also fourteenth in the number of lawyers and twelfth in the number of law school graduates among the states. The Virginia Bar is now reported to be tenth in size among state bars (see Table 1). Within the 14 states which are members of the Southern Regional Education Board, Virginia ranks fifth in lawyer-population ratio (see Table 2).

Presently there are two state-supported law schools in Virginia: The University of Virginia School of Law and the Marshall-Wythe School of Law of The College of William and Mary. There are two private law schools: The T. C. Williams School of Law of the University of Richmond and the Washington and Lee University School of Law. All four law schools are either expanding their enrollments or increasing the ratios of Virginians admitted to their entering classes each year (see Table 3). The University of Richmond is studying the feasibility of establishing an evening division of the T.C. Williams School of Law.

The number of new spaces for Virginians in entering classes each year will be approximately 100 by 1975. This figure does not include the possibility of expansion of the Marshall-Wythe School of Law of The College of William and Mary, further changes in the in-state versus out-of-state ratios at the four law schools, or the establishment of an evening division at the University of Richmond.

Turning to regional and national considerations, the State Council survey revealed that a much larger number of persons are seeking legal education (60,000) than law schools can accommodate (40,000). It appears, however, that there is already an employer's market for lawyers; the supply exceeds the demand. The U.S. Department of Labor projects that by 1980 the annual number of law school graduates (30,000) will be more than double the annual requirements for new lawyers and replacements (14,500). As potential law students become aware of these factors, there appears to be a slowing in the rate of increased applications to law schools.

In conclusion, Virginia law school expansion and changes in the in-state/out-of-state enrollment ratios, which will provide approximately 100 new spaces for Virginians each year by 1975, are equivalent to providing a new law school exclusively for Virginians.

A special study commissioned by the Southern Regional Education Board recently encouraged the creation of part-time law programs in the South, but emphasized that such programs should be initiated only in conjunction with full-time programs. Nationally, however, there has been a decline in the number of part-time programs largely because of higher costs and attrition rates. The study commissioned by SREB encouraged the strengthening and expansion of existing law schools before considering the establishment of a new law school. This approach is supported by the American Bar Association's Task Force on Professional Utilization.

A part-time program for law students should not be established in Virginia, except in association with an existing full-time program. Any decision regarding part-time legal education, at least for the Richmond metropolitan area, should be deferred until the University of Richmond decides whether it will add an evening division to its law school. If the University of Richmond does not add an evening division and if enough need is identified within the urban Richmond and lower Tidewater areas, The College of William and Mary is ideally located between the two metropolitan areas and should explore the possibility of such a program.

Finally, considering steps already taken or planned, a new law school in Virginia does not appear to be necessary at this time.

## TABLE 1

### STATES: POPULATION-LAWYER RATIO, 1970

| State | Population | No. of Lawyers | Population per Lawyer | Rank in Country |  | Percentage |  | Percentage Change 1963-1970 |  |
|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  | Population | No. of Lawyers | Of U.S. Population | Of U.S. Lawyers | Population | Lawyers |
| ALABAMA | 3,444,000 | 3,537 | 974 | 21 | 28 | 1.70 | 1.0 | −2.08 | 16.3 |
| ALASKA | 302,000 | 466 | 648 | 51 | 51 | .15 | .13 | 11.03 | 51.3 |
| ARIZONA | 1,772,000 | 2,769 | 640 | 33 | 31 | .87 | .78 | 9.52 | 24.0 |
| ARKANSAS | 1,923,000 | 2,107 | 913 | 32 | 35 | .95 | .59 | −1.64 | 9.34 |
| CALIFORNIA | 19,963,000 | 34,248 | 583 | 1 | 2 | 9.82 | 9.64 | 5.52 | 20.53 |
| COLORADO | 2,207,000 | 4,665 | 473 | 30 | 24 | 1.09 | 1.31 | 11.63 | 16.56 |
| CONNECTICUT | 3,032,000 | 5,583 | 543 | 24 | 19 | 1.49 | 1.57 | 5.46 | 15.63 |
| DELAWARE | 548,000 | 736 | 745 | 47 | 48 | .27 | .21 | 7.03 | 19.96 |
| DISTRICT OF COLUMBIA | 757,000 | 16,112 | 47 | 41 | 6 | .37 | 4.54 | 6.31 | 11.46 |
| FLORIDA | 6,789,000 | 11,510 | 590 | 9 | 11 | 3.34 | 3.24 | 14.21 | 20.53 |
| GEORGIA | 4,590,000 | 6,140 | 748 | 15 | 16 | 2.26 | 1.73 | 2.94 | 12.37 |
| HAWAII | 770,000 | 906 | 850 | 40 | 42 | .38 | .26 | 7.24 | 36.65 |
| IDAHO | 713,00 | 848 | 841 | 43 | 43 | .35 | .24 | 2.74 | 10.27 |
| ILLINOIS | 11,114,000 | 22,036 | 504 | 5 | 3 | 5.47 | 6.2 | 3.66 | 8.49 |
| INDIANA | 5,194,000 | 5,778 | 899 | 11 | 18 | 2.56 | 1.63 | 5.61 | 10.98 |
| IOWA | 2,825,000 | 4,020 | 703 | 25 | 26 | 1.39 | 1.13 | 2.84 | 5.51 |
| KANSAS | 2,249,000 | 3,458 | 650 | 28 | 29 | 1.11 | .97 | −.04 | 11.04 |
| KENTUCKY | 3,219,000 | 3,875 | 831 | 23 | 27 | 1.58 | 1.09 | 1.13 | 9.0 |
| LOUISIANA | 3,643,000 | 5,502 | 662 | 20 | 20 | 1.79 | 1.55 | 1.11 | 14.03 |
| MAINE | 994,000 | 1,130 | 880 | 38 | 40 | .49 | .32 | 1.12 | 10.78 |
| MARYLAND | 3,922,000 | 7,447 | 527 | 18 | 13 | 1.93 | 2.10 | 8.55 | 15.2 |
| MASSACHUSETTS | 6,689,000 | 12,905 | 518 | 10 | 8 | 3.29 | 3.63 | 24.26 | 13.66 |
| MICHIGAN | 8,875,000 | 11,753 | 755 | 7 | 10 | 4.37 | 3.31 | 5.98 | 14.98 |
| MINNESOTA | 3,805,000 | 5,844 | 651 | 19 | 17 | 1.87 | 1.64 | 6.4 | 12.64 |
| MISSISSIPPI | 2,217,000 | 2,766 | 802 | 29 | 32 | 1.09 | .78 | −4.73 | 10.41 |
| MISSOURI | 4,677,000 | 7,962 | 587 | 13 | 12 | 2.3 | 2.24 | 3.75 | 3.51 |
| MONTANA | 694,000 | 1,072 | 647 | 44 | 41 | .34 | .3 | −1.14 | 10.51 |
| NEBRASKA | 1,484,000 | 2,679 | 554 | 35 | 33 | .73 | .75 | 3.85 | 6.09 |
| NEVADA | 489,000 | 773 | 633 | 48 | 47 | .24 | .22 | 7.71 | 27.13 |
| NEW HAMPSHIRE | 738,000 | 823 | 897 | 42 | 45 | .36 | .23 | 8.37 | 17.57 |
| NEW JERSEY | 7,168,000 | 11,999 | 579 | 8 | 9 | 3.53 | 3.38 | 3.91 | 14.29 |
| NEW MEXICO | 1,016,000 | 1,319 | 770 | 37 | 39 | .50 | .37 | 5.87 | 14.49 |
| NEW YORK | 18,191,000 | 55,946 | 325 | 2 | 1 | 8.95 | 15.75 | .37 | 7.18 |
| NORTH CAROLINA | 5,082,000 | 4,638 | 1,095 | 12 | 25 | 2.5 | 1.31 | 1.64 | 8.38 |
| NORTH DAKOTA | 618,000 | 809 | 764 | 46 | 46 | .30 | .23 | 4.92 | 8.59 |
| OHIO | 10,652,000 | 17,001 | 627 | 6 | 5 | 5.24 | 4.79 | 3.37 | 8.25 |
| OKLAHOMA | 2,559,000 | 5,056 | 506 | 27 | 22 | 1.26 | 1.42 | 4.11 | 4.14 |
| OREGON | 2,081,000 | 3,207 | 611 | 31 | 30 | 1.02 | .90 | 6.45 | 12.72 |
| PENNSYLVANIA | 11,794,000 | 14,418 | 818 | 3 | 7 | 5.8 | 4.06 | 1.83 | 11.64 |
| RHODE ISLAND | 950,000 | 1,390 | 683 | 39 | 37 | .47 | .39 | 5.79 | 14.78 |
| SOUTH CAROLINA | 2,591,000 | 2,379 | 1,089 | 26 | 34 | 1.28 | .67 | .19 | 13.61 |
| SOUTH DAKOTA | 666,000 | 826 | 808 | 45 | 44 | .33 | .23 | −2.35 | 10.87 |
| TENNESSEE | 3,924,000 | 5,184 | 757 | 17 | 21 | 1.93 | 1.46 | 1.06 | 8.65 |
| TEXAS | 11,197,000 | 19,074 | 587 | 4 | 4 | 5.51 | 5.37 | 4.14 | 16.78 |
| UTAH | 1,059,000 | 1,367 | 775 | 36 | 38 | .52 | .38 | 5.06 | 8.4 |
| VERMONT | 445,000 | 611 | 728 | 49 | 49 | .22 | .17 | 9.88 | 19.1 |
| VIRGINIA | 4,648,000 | 6,893 | 674 | 14 | 14 | 2.29 | 1.94 | 3.12 | 18.86 |
| WASHINGTON | 3,409,000 | 4,671 | 730 | 22 | 23 | 1.68 | 1.32 | 13.4 | 14.37 |
| WEST VIRGINIA | 1,744,000 | 1,820 | 958 | 34 | 36 | .86 | .51 | 2.79 | 3.05 |
| WISCONSIN | 4,418,000 | 6,697 | 660 | 16 | 15 | 2.17 | 1.88 | 6.18 | 7.37 |
| WYOMING | 332,000 | 475 | 699 | 50 | 50 | .16 | .13 | 9.12 | 2.81 |

Source: American Bar Foundation. The 1971 Lawyer Statistical Report. p. 26

## TABLE 2

## SREB STATES: POPULATION-LAWYER RANK, 1970

| STATE | POP. RANK | LAWYER RANK | POP. PER LAWYER |
|---|---|---|---|
| ALABAMA | 21 | 28 | 974 |
| ARKANSAS | 32 | 35 | 913 |
| FLORIDA | 9 | 11 | 590 |
| GEORGIA | 15 | 16 | 748 |
| KENTUCKY | 23 | 27 | 831 |
| LOUISIANA | 20 | 20 | 662 |
| MARYLAND | 18 | 13 | 527 |
| MISSISSIPPI | 29 | 32 | 802 |
| NORTH CAROLINA | 12 | 25 | 1,095 |
| SOUTH CAROLINA | 26 | 34 | 1,089 |
| TENNESSEE | 17 | 21 | 757 |
| TEXAS | 4 | 4 | 587 |
| VIRGINIA | 14 | 14 | 674 |
| WEST VIRGINIA | 34 | 36 | 958 |

## TABLE 3

## VIRGINIA LAW SCHOOL ADMISSIONS, 1972, 1975

| Law School | Entering Class Enrollment Actual 1972 | Entering Class Enrollment Projected 1975 | New Virginia Places, 1975 |
|---|---|---|---|
| University of Virginia | 310 | 360 | 51 |
| The College of William and Mary | 150 | 150 | 17 |
| University of Richmond | 110 | 150 | 21 |
| Washington and Lee University | 80 | 120 | 13 |
| TOTAL | 650 | 780 | 102 |
| Increase | | 130 | |

## VI. CONCLUSION

The Commission believes that its recommendations represent a reasonable and balanced approach to the problems of coordination and economic efficiency for higher education in Virginia. We believe that no one institution, or even a small number of institutions, can fulfill all or most of the educational missions that Virginia needs in higher education and we believe that Virginia has benefited from a wide variety of institutions of higher education and can continue to benefit from this diversity and a reasonable and effectively coordinated system of higher education.

In order to implement the recommendations contained in this report, the Commission proposes that the legislation in Section VII of the report be enacted. The Commission hopes that the General Assembly is favorably disposed to accept this proposal.

Respectfully submitted,

Edward E. Willey, Chairman

W. Roy Smith, Vice Chairman

Richard M. Bagley

Archibald A. Campbell

Ray L. Garland

W. L. Lemmon

Paul W. Manns

D. French Slaughter, Jr.

# PROPOSED LEGISLATION

LD0223

SS 794

Seven hundred ninety-four D 12/13/73 RWB C 12/13/73 MFH

A BILL to amend and reenact § 2.1-116, as amended, of the Code of Virginia, relating to certain officers and employees exempt from provisions of the Virginia Personnel Act.

Be it enacted by the General Assembly of Virginia:

1. That § 2.1-116, as amended, of the Code of Virginia is amended and reenacted as follows:

§ 2.1-116. Certain officers and employees exempt from chapter.-- The provisions of this chapter shall not apply to:

(1) Officers and employees for whom the Constitution specifically directs the manner of selection;

(2) Officers and employees of the Supreme Court;

(3) Officers appointed by the Governor, whether confirmation by the General Assembly or by either house thereof be required or not;

(4) Officers elected by popular vote or by the General Assembly or either house thereof;

(5) Members of boards and commissions however selected;

(6) Judges, referees, receivers, arbiters, masters and commissioners in chancery, commissioners of accounts, and any other persons appointed by any court to exercise judicial functions, and jurors and notaries public, as such;

(7) Officers and employees of the General Assembly and persons employed to conduct temporary or special inquiries,

investigations, or examinations on its behalf;

(8) The presidents, and teaching and research staffs of State educational institutions and the director and professional staff of the State Council of Higher Education ;

(9) Commissioned officers and enlisted personnel of the national guard and the naval militia, as such;

(10) Student employees in institutions of learning, and patient or inmate help in other State institutions;

(11) Upon general or special authorization of the Governor, laborers, temporary employees and employees compensated on an hourly or daily basis; and,

(12) County, city, town and district officers, deputies, assistants and employees.

#

LD0343 BC 794

Seven hundred ninety-four D 12/13/73 RWB C 12/27/73 chr

RDF 1/4/74 RWB C 01/11/74 chr

RDF 1/12/74 RWB T 1/13/74 bc

A BILL to amend and reenact § 23-9.3 as amended, and §§ 23-9.4, 23-9.5, 23-9.9 and 23-9.14 of the Code of Virginia; and to further amend the Code of Virginia by adding § 23-9.6:1; and to repeal §§ 23-9.6, 23-9.7, 23-9.11 and 23-9.12, as severally amended, of the Code of Virginia, relating generally to the creation of the State Council of Higher Education; the Council's duties, responsibilities and authority; and the Council's effect upon the powers of the public institutions of higher education.

Be it enacted by the General Assembly of Virginia:

1. That § 23-9.3 as amended, and §§ 23-9.4, 23-9.5, 23-9.9 and 23-9.14 of the Code of Virginia are amended and reenacted and that the Code of Virginia is further amended by adding § 23-9.6:1 as follows:

§ 23-9.3. Creation and purpose; membership; terms; compensation.--(a) There is hereby created a State Council of Higher Education for Virginia, hereinafter sometimes referred to as the Council. The purpose of the Council shall be, through the exercise of the powers and performance of the duties set forth in this chapter, to promote the development and operation of ~~a~~ an educationally and economically sound, vigorous, progressive, and coordinated system of higher education in the State of Virginia. The Council shall be composed of persons selected from the State at large without regard to political affiliation but with due consideration of geographical representation.

Appointees shall be selected for their ability and all appointments shall be of such nature as to aid the work of the Council and to inspire the highest degree of cooperation and confidence. No officer, employee, trustee or member of the governing board of any institution of higher education, no employee of the Commonwealth, except the Superintendent of Public Instruction, or member of the General Assembly or member of the State Board of Education shall be eligible for appointment to the Council except as hereinafter specified. All members of the Council shall be deemed members at large charged with the responsibility of serving the best interests of the whole State. No member shall act as the representative of any particular region or of any particular institution of higher eduction.

(b) The Council shall consist of eleven members appointed by the Governor subject to confirmation by the General Assembly at its next regular session. Of the first members of the Council appointed by the Governor, two shall be appointed for terms of four years, two for terms of three years, two for terms of two years, and two for terms of one year; one of the appointments made during the year nineteen hundred seventy to increase the size of the Council shall be for a term of two years, one for a term of three years, and one for a term of four years. Successors to the persons so appointed shall be appointed for terms of four years. All terms shall begin July one. Appointments to fill vacancies occurring shall be for the unexpired term.

(c) No person having served on the Council for two terms of four years shall be eligible for reappointment to the Council for two years thereafter.

(d) Appointive members of the Council shall receive a per diem compensation in the amount set forth in § ~~14-29.1~~ 14.1-18 of the Code of Virginia for each day spent, and shall be paid their actual expenses incurred, in the performance of their duties as members of the Council.

(e) The Council shall elect a chairman and a vice chairman from its own membership and appoint a secretary and such other officers as it deems necessary or advisable, and shall prescribe their duties and term of office.

§ 23-9.4. Employment of personnel.--The Council ~~may employ~~ shall employ and appoint a director who shall be the chief executive officer of the Council, and such personnel as may be required to assist it in the exercise and performance of its powers and duties.

§ 23-9.5. Coordinating council for State-supported institutions of higher education.--The Council shall constitute a coordinating council for ~~the University of Virginia, Mary Washington College of the University of Virginia, the Medical College of Virginia, the Virginia Military Institute, Longwood College, Madison College, the College of William and Mary in Virginia, the Virginia State College, the Virginia Polytechnic Institute and Radford College, Woman's Division of the Virginia Polytechnic Institute~~ the College of William and Mary in Virginia, George Mason University, Longwood College, Madison College, Mary Washington College, Norfolk State College, Old Dominion

University,_Radford_College,_the_University_of_Virginia, Virginia_Commonwealth_University,_Virginia_Military Institute,_Virginia_Polytechnic_Institute_and_State University,_Virginia_State_College_and_the_Department_of Community_Colleges_and_the_Department's_comprehensive community_colleges , branches ~~or~~_,_divisions_or_colleges of any of the foregoing, and such other state-supported institutions of higher education as may in the future be established.

23-9.6:1.__Duties_of_Council.--In_addition_to_such other_duties_as_may_be_prescribed_elsewhere,_the_Council_of Higher_Education_shall_have_the_duty,_responsibility_and authority:

(a)_To_develop_a_master_plan_for_the_development_of public_higher_education_in_Virginia._In_developing_such plan,_the_Council_shall_consider_the_future_needs_for_higher education_in_Virginia_at_both_the_undergraduate_and_the graduate_levels,_the_mission,_programs,_facilities_and location_of_each_of_the_existing_institutions_of_higher education,_and_the_need,_if_any,_for_modifying_the_mission of_any_public_institution_of_higher_education,_in_addition to_such_other_matters_as_the_Council_deems_appropriate.__The Council_shall_revise_the_master_plan_biannually_in_each_odd numbered_year_and_shall_submit_within_the_time_prescribed_by §_2.1-54_of_the_Code_of_Virginia_the_plan_as_revised_to_the Governor_and_the_General_Assembly_together_with_such recommendations_as_are_necessary_for_its_implementation._

(b)_To_review_and_approve_or_disapprove_any_proposed change_in_the_statement_of_mission_of_any_presently_existing public_institution_of_higher_education_and_to_define_the mission_of_all_public_institutions_of_higher_education created_after_the_effective_date_of_this_provision.__Nothing contained_in_this_provision_shall_be_construed_to_authorize the_Council_to_modify_any_mission_statement_adopted_by_the General_Assembly._

(c)_To_study_any_proposed_escalation_of_any_public institution_to_a_degree_granting_level_higher_than_that level_to_which_it_is_presently_restricted_and_to_submit_a report_and_recommendation_to_the_Governor_and_the_General Assembly_relating_to_the_proposal.__The_study_shall_include the_need_for_and_benefits_or_detriments_to_be_derived_from the_escalation.__No_such_institution_shall_implement_any such_proposed_escalation_until_the_Council's_report_and recommendation_have_been_submitted_to_the_General_Assembly and_the_General_Assembly_approves_the_institution's proposal._

(d)_To_review_and_approve_or_disapprove_all_enrollment projections_proposed_by_each_public_institution_of_higher education.__The_Council_shall_have_the_authority_to establish_a_broad_range_of_maximum_and_minimum_enrollment projections_for_each_institution.__Said_range_of_projections shall_conform_to_the_master_plan_prepared_by_the_Council._

(e)_To_review_and_approve_or_disapprove_all_new curricular_offerings_which_any_public_institution_of_higher education_proposes.__As_used_herein,_"curricular_offerings" include_both_undergraduate_and_graduate_curricula._

(f) To review and require the discontinuance of any curriculum which is presently offered by any public institution of higher education when the Council determines that such curricular offering is nonproductive or unnecessarily duplicative of other curricula offered by other institutions of higher education in Virginia. As used herein, "curricular offering" includes both undergraduate and graduate curricula.

(g) To review and approve or disapprove the creation and establishment of any department, school, college, branch, division or extension of any public institution of higher education which such institution proposes to create and establish. This duty and responsibility shall be applicable to the proposed creation and establishment of departments, schools, colleges, branches, divisions and extensions whether located on or off the main campus of the institution in question; provided, however, that the Council does not have authority to disapprove any organizational change proposed solely for the purpose of internal management where the institution's curricular offerings remain constant. Nothing in this provision shall be construed to authorize the Council to disapprove the creation and establishment of any department, school, college, branch, division or extension of any institution which has been created and established by the General Assembly.

(h) To develop a uniform comprehensive data information system designed to gather all information necessary to the performance of the Council's duties in the area of comprehensive planning. Said system shall include information on admissions, enrollments, personnel, programs, financing, space inventory, facilities and such other areas as the Council deems appropriate.

(i) To develop in cooperation with the appropriate State financial and accounting officials and to establish uniform standards and systems of accounting, record keeping and statistical reporting for the public institutions of higher education.

(j) To review annually and approve or disapprove all changes in the inventory of educational and general space which any public institution of higher education may propose.

(k) To visit and study the operations of each of the public institutions of higher education at such times as the Council shall deem appropriate and to conduct such other studies in the field of higher education as the Council deems appropriate or as may be requested by the Governor or the General Assembly.

(l) To provide advisory services to private, accredited and non-profit institutions of higher education, whose primary purpose is to provide collegiate or graduate education and not to provide religious training or theological education, on academic, administrative, financial and space utilization matters. The Council may also review and advise on joint activities, including contracts for services, between such private institutions and public institutions of higher education or between such private institutions and any agency of the Commonwealth or political subdivision thereof.

(m) To adopt such rules regulations as the Council believes necessary to implement all of the Council's duties and responsibilities as set forth in this Code. The various public institutions of higher education shall comply with such rules and regulations.

(n) In carrying out its duties and responsibilities, the Council, insofar as practicable, shall preserve the individuality, traditions and sense of responsibility of the respective institutions. The Council, insofar as practicable, shall seek the assistance and advice of the respective institutions in fulfilling all of its duties and responsibilities.

§ 23-9.9.~~-Institutions-to-transmit-budget-requests-to Council;-coordinating-requests;-submission-to-Governor.---~~ Preparation of budget requests; submission of budget request to Council; coordinating requests; submission of recommendations to Governor and General Assembly.--The Council of Higher Education shall develop policies, formulae and guidelines for the fair and equitable distribution and use of public funds among the public institutions of higher education, taking into account enrollment projections and recognizing differences as well as similarities in institutional missions. Such policies, formulae and guidelines as are developed by the Council shall include provisions for operating expenses and capital outlay programs_and_shall_be_utilized_by_all_public_institutions_of higher_education_in_preparing_requests_for_appropriations._ The_Council_shall_consult_with_the_Division_of_the_Budget_in the_development_of_such_policies,_formulae_and_guidelines_to insure_that_they_are_consistent_with_the_requirements_of_the Division_of_the_Budget._

Not less than thirty days prior to submitting its biennial budget request to the Governor, the governing board of each_public institution of higher education~~-supported-by the-State~~ shall transmit to the Council~~-a-duplicate-original of~~_such_selected_budgetary_information_relating_to its budget request for maintenance and operation and for capital outlay_as_the_Council_shall_reasonably_require . ~~-in-the light-of-these-requests,-and-in-the-light-of-the-needs-of the-State-for-higher-education,-the-Council-shall-prepare-an estimate-of-such-needs-for-each-year-of-the-ensuing biennium,-coordinating-the-budget-requests-for-all-the institutions-but-identifying-the-request-of,-and-the proposed-budget-for,-each-institution,-and-submit-the-same within-the-time-prescribed-by-§-2-48-(§-2.1-54)-of-the-Code of-Virginia-to-the-Governor.-~~_The_Council_shall_analyze such_information_in_light_of_the_Council's_master_plan, policies,_formulae_and_guidelines_and_shall_submit_to_the Governor_and_the_General_Assembly_not_later_than_thirty_days after_the_institutions_have_submitted_their_full_budget request_recommendations_for_approval_or_modification_of_each institution's_request_together_with_a_rationale_for_each such_recommendation._

Nothing herein shall prevent any institution from appearing through its representatives or otherwise before the Governor and his advisory committee on the budget, the General Assembly or any committee thereof at any time.

§ 23-9.14. Effect upon powers of governing boards of institutions.--The powers of the governing boards of the several institutions over the affairs of such institutions shall not be impaired by the provisions of this chapter except to the extent that powers and duties are herein specifically conferred upon the State Council of Higher Education. _The_Council_shall_have_no_authority_over_the_solicitation,_investment_or_expenditure_of_endowment_funds_now_held_or_in_the_future_received_by_any_of_the_public_institutions_of_higher_education._

2. That §§ 23-9.6, 23-9.7. 23-9.11, and 23-9.12, as severally amended, of the Code of Virginia are repealed.

#

L30221

Seven hundred ninety-four D 12/13/73 RWB C 1/13/74 ss SB 794

A BILL to amend and reenact § 2.1-345, as amended, of the Code of Virginia, relating to the Freedom of Information Act and agencies to which Act is inapplicable.

Be it enacted by the General Assembly of Virginia:

1. That § 2.1-345, as amended, of the Code of Virginia is amended and reenacted as follows:

§ 2.1-345. Agencies to which chapter inapplicable.--The provisions of this chapter shall not be applicable to deliberations of standing and other committees of the General Assembly, provided that when bills or other legislative measures are considered in executive or closed meetings of such committees, final votes thereon shall be taken in open meetings; unless such action is in conflict with the rules of the body of the General Assembly considering such bills or other legislative matters, under the provisions of Article IV, Section 7, of the Constitution of Virginia; legislative interim study commissions and committees, including the Virginia Code Commission; the Virginia Advisory Legislative Council and its committees; study committees or commissions appointed by the Governor; boards of visitors or trustees of state-supported institutions of higher education and the State Council of Higher Education ; provided, that announcements of the actions of the boards and Council , except those actions excluded by § 2.1-344 of the Virginia Code, are made available immediately following the meetings and that the official minutes of the board and Council meetings, except those actions excluded by § 2.1-344 of the Virginia Code are made available to the public not more than three working days after such meetings; parole boards; petit juries; grand juries; the Virginia State Crime Commission; and study commissions or committees appointed by the governing bodies of counties, cities and towns; provided, that no committee or commission appointed by such governing bodies, the membership of which consists wholly of members of such governing body, shall be deemed to be study commissions or committees under the provisions of this section.

#

LD 0941
Seven hundred ninety-four D 1/14/73 RWB T 1/14/74 ss

## SENATE JOINT RESOLUTION NO. ____

Creating a study commission to consider whether it is desirable and feasible to merge Radford College and Virginia Polytechnic Institute and State University and the attendent consequences of such a merger.

Whereas, the General Assembly Commission on Higher Education received from one of its consultants a recommendation that merger of Radford College and Virginia Polytechnic Institute and State University be seriously considered but the Commission was unable to study the matter carefully because of an insufficient amount of time; and

Whereas, Radford College and Virginia Polytechnic Institute and State University are located sixteen miles apart and previously were merged for twenty years prior to their separation in 1964; and

Whereas, Virginia Polytechnic Institute and State University has indicated an interest in constructing certain capital improvements which would duplicate presently existing facilities at Radford College; and

Whereas, it appears that Radford College possesses an underutilized physical plant which can be more effectively used by an increased number of students; and

Whereas, the two institutions offer many similar academic programs which result in duplicative efforts; and

Whereas, it may be possible to effectuate large financial savings and certain fiscal economics by merging the two institutions; and

Whereas, the effect of such a merger on the quality of academic offerings and on the quality of student life at the two institutions is not known; now, therefore, be it

LD 0941
Seven hundred ninety-four D 1/14/74 RWB T 1/14/74 ss

Resolved by the Senate of Virginia, the House of Delegates concurring, That there is hereby created a commission, for the purpose of studying whether it is desirable and feasible to merge Radford College and Virginia Polytechnic Institute and State University and the attendent consequences of such a merger. The Commission shall consist of nine members. Four members shall be appointed by the Senate Committee on Privileges and Elections of whom two shall be members of the Senate Committee on Finance and two shall be members of the Senate Committee on Education and Health and five members shall be appointed by the Speaker of the House of Delegates of whom three shall be members of the House Committee on Appropriations and two shall be members of the House Committee on Education.

All State agencies and institutions shall assist the Commission in its work. Members of the Commission shall receive compensation as provided in § 14.1-18 of the Code of Virginia for their services and shall receive their reasonable expenses incurred in performing the work of the Commission, for which, and for such other expenses as may be required including secretarial and professional assistance, there is hereby appropriated from the contingent fund of the General Assembly a sum sufficient, estimated at ten thousand dollars. The State Council of Higher Education shall serve as secretariat to the Commission and shall furnish staff assistance to the Commission. In addition, the Division of Legislative Services shall furnish such assistance as the Commission may request.

The Commission shall complete its study and report to the General Assembly not later than November one, nineteen hundred seventy-four.

#

# APPENDICES

# APPENDIX A

# COMMONWEALTH OF VIRGINIA
# HIGHER EDUCATION MANAGEMENT REVIEW

## State Level Management, Planning and Coordination

Donald Shaner and Associates
Management Consultants - Chicago

**Donald Shaner and Associates**
*Management Consultants*

20 N. Wacker Drive
Chicago, Illinois 60606
(312) 726-6185

September 28, 1973

Senator Edward E. Willey, Chairman
General Assembly Commission on Higher Education
State Capitol
Richmond, Virginia 23219

Dear Sir:

We have completed our management review of Virginia's public system of higher education and are pleased to submit this final report documenting our findings and presenting our recommendations for improvement.

In the last 10 years, the public system of higher education (including the community colleges) has grown from 31 institutions to 39 colleges and universities. Student enrollments have increased by 50% and are forecast to grow by another 50% in the next 10 years. The financial investment required to support this system is already immense; nevertheless, it is projected to double in the next 10 years. Thus, the General Assembly Commission on Higher Education must ascertain whether this complex human financial endeavor is managed in a proficient and effectual manner.

Following a preliminary review of the system last December, the Commission concluded, based on its findings, that a comprehensive study was warranted. The Commission's interest focused on the need for management, planning, and coordination at the state level. Our approach therefore was to review the management of each public institution and, with this as a base, to address the management needs of the system as a whole. By developing recommendations to fulfill these needs, the structure of state-level management, planning, and coordination evolves as a resultant.

The backup documentation we have provided comprises recommendations for improving the management effectiveness of each senior institution in terms of organizational structure, financial management and control, long-range planning, data processing and systems, space utilization, auxiliary enterprise operations, materials management, personnel practices, physical plant operations, and library management.

This final report primarily describes the management needs at the state level; however, it also contains a composite of our findings at the individual institutions. The report is divided into five sections. The first summarizes our recommendations for improving management, planning, and coordination at the state level. The second section describes the background environment within which public education is provided in the Commonwealth of Virginia. The next section presents our recommendations for state-level management, planning, and coordination, and this is followed by the section containing a composite of our findings at the individual institutions. The fifth and last section deals with the actual implementation of the recommendations contained in our report.

The major purpose of this study was to determine where improvements could be made. It was not meant to be an inventory of the numerous fine qualities of the public system of higher education; Virginia is fortunate in having high-caliber, dedicated professionals leading these institutions. Also, the more significant problems are the repercussion of the absence of policies and effective systems of management at the state level and do not reflect upon the heads of individual institutions. Throughout the conduct of this study, we received excellent cooperation and assistance from the executives and administrators of each of the colleges and universities as well as from the State Council of Higher Education and other state agencies.

In submitting this report, we firmly believe that implementation of our recommendations will improve, effectively and comprehensively, the management of public higher education in the Commonwealth of Virginia.

Sincerely,

Donald Shaner and Associates

Donald Shaner and Associates

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# I. SUMMARY

# I. SUMMARY

Public higher education in the Commonwealth of Virginia comprises 15 four-year colleges and universities and 24 community colleges. Enrollment in the fall of 1972 was about 151,000 students, including some 89,000 in the senior institutions. In that year appropriations of $358-million were made in support of the programs of the system. By 1982, enrollments are expected to increase to about 210,000 students, and total expenditures are expected to double.

The purpose of our study was to assist the General Assembly Commission of Higher Education in determining an appropriate state-level system of management, planning, and coordination. Our approach was to review the management of each four-year college and university in terms of its organizational structure, financial management and control, long-range planning, data processing and systems, space utilization, auxiliary enterprise operations, materials management, personnel management, physical plant operations, and library activities. Based upon a broad knowledge of problems in each college and university, we then could determine the changes necessary at the state level to fulfill the needs of the institutions and of the system as a whole.

The public system of higher education in Virginia is an enormous complex, human-financial endeavor requiring management of the highest order if its full potential is to be realized. Our findings indicate this does not exist at either the state level or at the institutional level. Virginia public higher education long ago outgrew its system of state-level management, and the present-day repercussions of this are extensive.

Relative to the management needs of the system, the State Council of Higher Education, as it is currently constituted, has very little substantive influence on the coordination and development of higher education in Virginia. Its influence on the financial planning and operation of the system is negligible.

No documented plan exists to guide the comprehensive development of the public system of higher education or any of the institutions it comprises. The public need for higher education has not been broadly determined, so there is no basis for confidence that this need is being served. Hundreds of millions of dollars are spent to fund higher education, but without a master plan the self-defined purposes and needs of the institutions are inadvertently funded, rather than the higher education needs of the general public.

The system of public four-year colleges and universities is overbuilt in terms of number of institutions and classroom space. More classroom space exists today than will be needed 10 years from now. Careful and considered management therefore is required to make good use of the existing facilities and to prevent reoccurrence of this situation in the future.

The State Council of Higher Education does not have sufficient authority and must be considerably strengthened. As mentioned, no documented master plan exists to guide the development of the public system of higher education. However, little would be accomplished if a plan did exist because the State Council does not have the authority to implement such a plan.

This final report, while addressing the requirements for improving and strengthening the state-level management of public higher education, also contains recommendations for improving the management of the institutions themselves. Our study has developed opportunities to save $21-million annually in operating costs and $76-million in capital expenditures. For the most part, these savings opportunities also are described in the backup file on each public institution of higher education.

The following recommendations summarize the actions we believe are necessary to impart the management planning and coordination required at the state level:

1. Expand the authority and responsibility of the State Council of Higher Education and redesignate it the Virginia Board of Regents. The board would be assigned the following authority and responsibility:

   - Responsibility for the preparation and implementation of a master plan to guide the development of higher education in a manner that fulfills the needs of the general public and that provides quality, quantity, and economy of education.

- Approval of new academic programs.
- Authority to reallocate academic programs as necessary to achieve implementation of the master plan.
- Authority to discontinue state support of academic programs not in context with the needs of the general public as defined by the master plan.
- Responsibility for review and approval of capital requests and annual operating funding to achieve economic implementation of the master plan.
- Responsibility for development of formula budgeting as a basis for implementation of the master plan and allocation when available funds are insufficient.
- Functional responsibility for the development and provision of common administrative systems, including the chart of accounts, accounting manual, budgeting, management information systems, and others.
- Responsibility for the provision and management of a computer network or utility serving the public system of higher education and providing the necessary hardware and software.
- Responsibility for the development and provision of training programs to assist the institutions in custodial management, maintenance management, food service management, inventory control, library management, space utilization management and control, educational technology (innovative use of television, computers, audiovisuals, library technology, and the like),

program-planning-budgeting systems, and orientation of new members of the Boards of Visitors to the management requirements of the state system.

- Provision of educational leadership based upon its long-range forecast of changes in technology, developments in knowledge, and the needs of society. Included should be innovations and changes in curriculums as well as the methods by which they are offered, such as three-year baccalaureate programs and the developing field of instructional technology.

2. Attach immediate and urgent priority to the development of master plan for higher education that substantively coordinates the senior institutions and the community colleges and that contains the state's consideration and posture towards private higher education. The plan must reconcile existing excess classroom facilities with enrollment expansion and placement of academic programs in the system.

3. Establish a system of master plan review that enables appraisal and tacit long-term approval of the master plan by the Executive Office and the General Assembly.

4. Replace the peer group system for establishment of faculty salaries with a structured system of salary administration incorporated into the formula budgeting process.

5. Develop a state-wide policy for the establishment of tuition fees to ensure more uniform provision for basic funding of educational and general expenditures for both in-state and out-of-state students. As part of this, fees for out-of-state students should be increased by an average of 50%.

6. Develop a comprehensive information system that meets the planning and coordination needs of the proposed Board of Regents as well as the administrative requirements of the institutions.

7. Develop a plan for the installation of a planning, programming, budgeting system.

8. Strengthen state audit procedures.

9. Discontinue the operation of Christopher Newport College as a four-year institution.

10. Evaluate the academic implications and the feasibility of merging Radford College with Virginia Polytechnic Institute and State University, and Clinch Valley College with Mountain Empire Community College.

11. Evaluate capital requests for classroom facilities against a higher standard of space utilization.

12. Modify space planning criteria required for approval of library facilities.

13. Establish a salary structure for classified employees that reflects regional differences in compensation for comparable positions throughout the Commonwealth.

The management and administration of the individual colleges and universities can be improved through the following actions:

- Develop a program of executive performance review beginning with the board of visitors and extending through the president and each department head-library operations, auxiliary enterprises, and buildings and grounds departments, and so on. Included must be the provision of management-oriented reports.

- Establish a planning function and develop a long-range plan to guide the comprehensive development and operation of the institution.

- Discontinue systems of cash accounting for purposes of management control.

- Reduce costs of computer equipment through the use of third-party leasing, and study the potential savings of outright purchase.

- Provide each auxiliary enterprise manager with a monthly report of the results of operations including profit and loss.

- Strengthen physical plant operations by instituting comprehensive programs of preventive maintenance; systematic procedures for planning, scheduling, and measuring performance; the task system of custodial management; and improved management control reports.

- Apply purchasing techniques to the acquisition of library materials.
- Involve library heads in academic program planning so that collections more closely serve the needs of the institutions.
- Institute programs of library space management, such as the elimination of obsolete books, off-site storage of little used books, and application of miniaturized documents where appropriate.

Implementation of these recommendations, which are detailed in the following pages, will provide improved management and more effective administration of the Virginia public system of higher education at the state level as well as at the institutional level.

# II. GENERAL BACKGROUND

## II. GENERAL BACKGROUND

The Higher Education Management Review was conducted to assist the General Assembly Commission on Higher Education in the fulfillment of its task to improve the management, planning, and coordination of the Commonwealth's public system of higher education.

In December 1972, Donald Shaner and Associates completed a pilot study, or overview, of the public institutions of higher education, the State Council of Higher Education, and the State Board for Community Colleges. The study found that, in general, very little substantive management, planning, or coordination of Virginia higher education was effected by the State Council of Higher Education and that the financial and educational repercussions of this void were considerable. Because the community colleges are undergoing very rapid changes, it was thought that an assessment at this time would not be meaningful. For this reason, interest was focused on the senior institutions.

Although the December study was a very broad overview, it nonetheless indicated that a more complete review was highly desirable. Thus, the Management Review of Virginia Higher Education was initiated in January 1973. The objective of this review was to assess the management needs of each of the public institutions of higher education and, based on these data, to design a structure of authority and responsibility at the state level that would fulfill the needs common and significant to the system as a whole.

Our approach consisted of an appraisal of each of the 15 state-supported four-year colleges and universities in terms of their organizational structure, financial management and control, planning (institutional research and academic, nonacademic, operational, and capital planning), data processing and systems, space utilization and registration, auxiliary enterprises, materials management, personnel, plant operation and maintenance, and academic resources. Thus, we encompassed every aspect of a college or university's operations, except the educational process itself. As part of this appraisal, about 350 of the administrators and managers of the public colleges and universities were interviewed.

Backup files documenting our findings on each institution were prepared and have already been submitted. In this final report, we present our recommendations for the state-level management, planning, and coordination of the public system of higher education (Section III) and then a composite of our findings and recommendations at the individual public institutions (Section IV). Section V contains an outline of steps required to implement our recommendations.

## Higher Education - Past and Present

Virginia's support of public higher education extends back to 1796. In that year, a proposal made by Thomas Jefferson was enacted initiating the provision of public funds for elementary schools and leading to the subsequent founding in 1819 of the University of Virginia. In 1908, the General Assembly of Virginia established the Virginia Education Commission. The commission's purpose was to develop recommendations designed to coordinate financial support for the growing state system of higher education. One of the recommendations presented in 1912 was:

> "That a permanent education commission be created by the Legislature with power to cooperate with the presidents and boards of visitors for the several state institutions of learning in the state and others in authority, in carrying out whatever recommendations this General Assembly may adopt or other matters which may be referred to it by the Legislature."[1]

However, this recommendation was not implemented until 44 years later when the State Council of Higher Education was established in 1956.

During the interim years, a number of state studies were commissioned by the General Assembly. One study resulted in the establishment of a Normal Board in 1914 to govern the state's normal schools. Another study led to the transfer of normal school control from the Normal Board to the State Board of Education in 1930. A further study in 1928 focused upon the duplications in the various public colleges and recommended the creation of the office of Chancellor of Higher Education to coordinate programs of the public institutions, but it was not acted upon. In 1944, the General Assembly created the Virginia Education Commission to make a study of public education and teacher training. In 1947, another study proposed that a department of higher education be created.

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[1] "Report of Education Commission," Journal of the Senate of the Commonwealth of Virginia, Senate Document No. 3, Richmond, Superintendent of Public Printing, 1912, page 10.

A comprehensive study of higher education undertaken in 1950 by the Virginia Advisory Legislative Council set the stage for the development of the present State Council of Higher Education. This council recommended that:

- A state board of higher education be created.
- A comprehensive, unified program of higher education be developed.
- Individual governing boards be continued.
- The board develops a coordinated budget presentation to the Governor, with its recommendations for higher education.
- The board conduct continuous studies in higher education.
- The board approve all new programs and end uneconomical and inefficient practices.
- Institutions be permitted to build up their endowment funds.[2]

Today the State Council of Higher Education serves as the state's planning and coordinating agency for 15 four-year colleges and universities, the State Board of Community Colleges and its system of 23 community colleges, and one two-year branch college. Enrollment at the four-year institutions was 89,545. A profile of data on these institutions is given in the table on the following page, and the geographical location of the public four-year and community colleges is illustrated on the map on page II - 7. Brief narrative descriptions of each of the four-year institutions follow.

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[2] Higher Education in Virginia, Report of the Virginia Advisory Legislative Council to the Governor and General Assembly of Virginia, Richmond, Division of Purchase and Printing, 1951, pages 8 and 9.

Christopher Newport College of the College of William and Mary is a coeducation, nonresidential urban college, which was established in 1960 as a two-year institution. A four-year degree-granting program was initiated in 1967. The college serves both full-time and part-time students by offering both day and evening classes throughout the calendar year. Almost one-half of the college's enrollment attends in the evening.

Clinch Valley College of the University of Virginia was established in 1954, by Legislative Act of the General Assembly, as a two-year branch college of the University of Virginia. The college was elevated by the General Assembly to four-year status beginning with the 1968/69 school year. Bachelor of Arts degrees were first granted in June 1970.

George Mason University is the outgrowth of an extension center for higher education established in northern Virginia in 1948 by the University of Virginia. In 1956, the Board of Visitors of the University of Virginia authorized the establishment of a coeducational two-year branch college to supplement extension offerings. Early in 1960, the branch was named for the Virginia statesman, George Mason. In 1966, the General Assembly authorized George Mason to become a four-year degree-granting institution and mandated it to become a university of major proportions. In 1972, the university became an independent institution with its own Board of Visitors.

Longwood College was founded in 1839 as the Farmville Female Seminary. It was the first college to be chartered by the state for the education of women. The Seminary became incorporated in 1860 as the Farmville Female College. Successively, it became the State Normal School for Women in 1914, the State Teacher's College at Farmville in

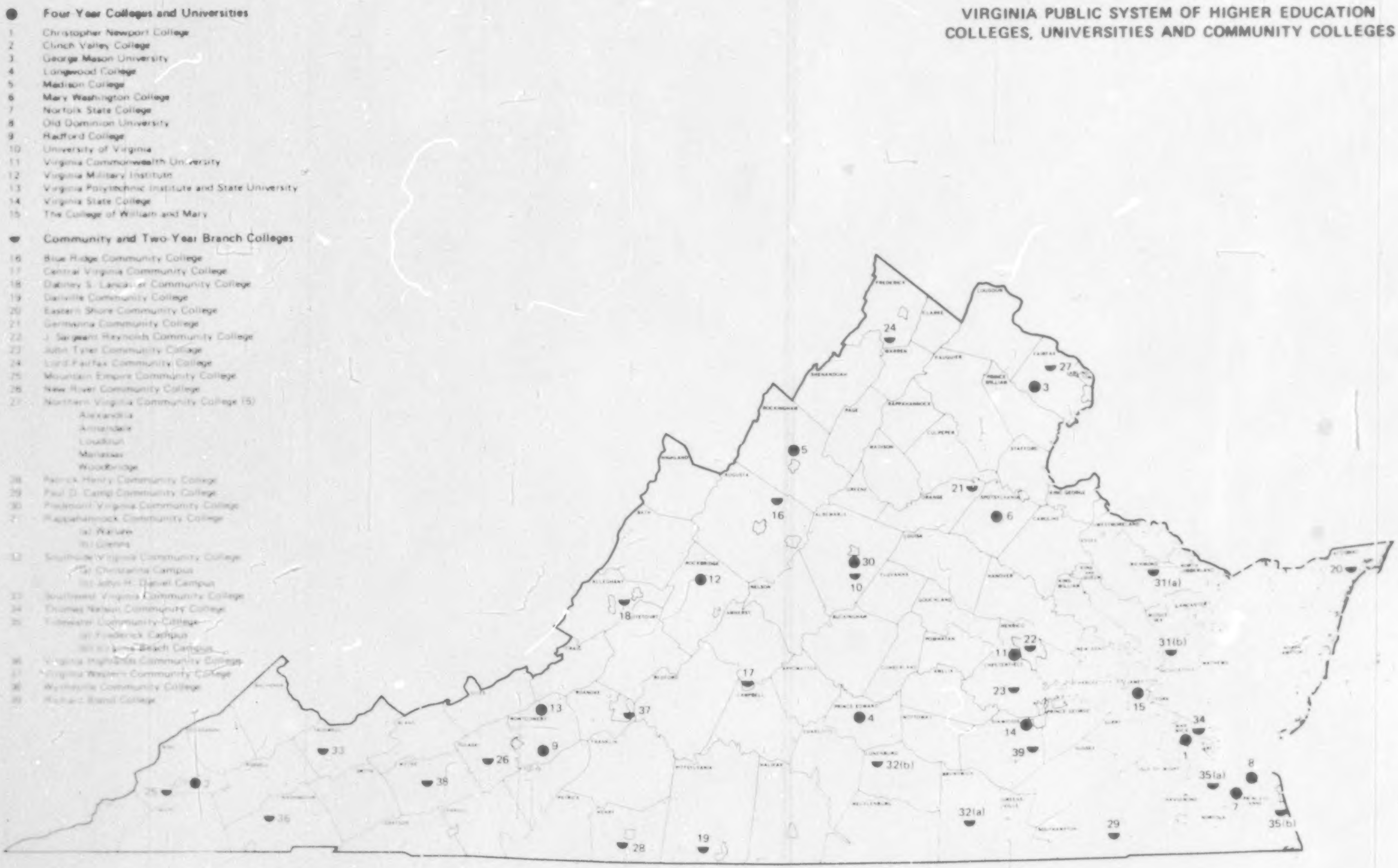
# SELECTED STATISTICS
# VIRGINIA PUBLIC FOUR YEAR COLLEGES AND UNIVERSITIES

| Institution | Founding Date | 1971/72 Head-Count Enrollment | Personnel Faculty | Personnel Staff | Personnel Total | 1971/72 Operating Expenditures ($-Thousands) | Plant Investment ($-Millions) | Main Campus Acres | Dormitory Capacity | Classrooms | Degrees Offered Bachelor | Degrees Offered Masters | Degrees Offered Doctorate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Christopher Newport | 1960 | 2,068 | 93 | 69 | 162 | 1,831 | 4.6 | 75 | - | 29 | X | | |
| Clinch Valley | 1954 | 781 | 57 | 51 | 108 | 1,798 | 3.6 | 272 | 191 | 18 | X | | |
| George Mason | 1948 | 3,143 | 245 | 242 | 487 | 4,238 | 11.8 | 565 | - | 88 | X | X | |
| Longwood | 1839 | 2,372 | 179 | 262 | 441 | 6,172 | 22.0 | 50 | 2,290 | 66 | X | X | |
| Madison | 1908 | 4,562 | 336 | 581 | 917 | 11,249 | 32.0 | 310 | 3,131 | 93 | X | X | |
| Mary Washington | 1908 | 2,058 | 172 | 374 | 546 | 5,742 | 23.0 | 100 | 1,902 | 64 | X | | |
| Norfolk State | 1935 | 5,678 | 390 | 327 | 717 | 9,493 | 23.0 | 60 | 711 | 86 | X | X | |
| Old Dominion | 1930 | 9,903 | 710 | 662 | 1,372 | 14,567 | 34.0 | 84 | 892 | 154 | X | X | X |
| Radford | 1910 | 3,859 | 231 | 372 | 603 | 9,280 | 30.0 | 72 | 3,331 | 89 | X | X | |
| University of Virginia | 1819 | 12,351 | 1,193 | 5,000 | 6,193 | 91,003 | 113.0 | 913 | 3,440 | 166 | X | X | X |
| Virginia Commonwealth | 1838 | 14,591 | 1,312 | 5,827 | 7,139 | 77,322 | 81.0 | 79 | 2,529 | 213 | X | X | X |
| Virginia Military Institute | 1839 | 1,128 | 107 | 243 | 350 | 5,337 | 23.0 | 134 | 1,223 | 87 | X | | |
| Virginia Polytechnic Institute | 1872 | 13,282 | 2,133 | 3,384 | 5,517 | 65,972 | 100.0 | 2,113 | 7,706 | 198 | X | X | X |
| Virginia State | 1882 | 3,267 | 273 | 470 | 743 | 8,582 | 30.0 | 210 | 1,847 | 106 | X | X | |
| William and Mary | 1693 | 5,472 | 402 | 626 | 1,028 | 16,986 | 43.0 | 915 | 2,919 | 111 | X | X | X |
| Total | | 84,515 | 7,833 | 18,490 | 26,323 | 329,572 | 574.0 | 5,952 | 32,112 | 1,568 | | | |

# COMMONWEALTH OF VIRGINIA – FOUR YEAR COLLEGES AND UNIVERSITIES
## SUMMARY OF REVENUES AND EXPENDITURES – FISCAL 1972
(Thousands of Dollars)

| | Christopher Newport | Clinch Valley | George Mason | Longwood | Madison | Mary Washington | Norfolk State | Old Dominion | Radford | University of Virginia | VCU | VMI | VPI | Virginia State | William & Mary | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Revenues | | | | | | | | | | | | | | | | |
| General Fund | | | | | | | | | | | | | | | | |
| Educational | $ 690 | $ 859 | $2,139 | $2,341 | $ 4,215 | $1,763 | $4,239 | $ 6,809 | $3,694 | $20,828 | $18,320 | $2,174 | $30,880 | $4,113 | $ 7,042 | $110,106 |
| Hospital | – | – | – | – | – | – | – | – | – | 5,390 | 10,835 | – | – | – | – | 16,225 |
| Student Fees | 808 | 288 | 1,981 | 1,156 | 2,536 | 1,934 | 1,924 | 4,103 | 1,405 | 8,887 | 7,386 | 1,005 | 8,145 | 1,622 | 3,734 | 46,914 |
| Sponsored Programs | 12 | 15 | 45 | – | 199 | 75 | – | 931 | – | 14,437 | 7,342 | – | 11,463 | 75 | 745 | 35,339 |
| Student Aid | 23 | 137 | 37 | 50 | 113 | 34 | 587 | 369 | 87 | 4,722 | 1,433 | 149 | 1,616 | 283 | 539 | 10,179 |
| Auxiliary Enterprises | 186 | 162 | – | 2,661 | 4,114 | 1,985 | 1,368 | 1,443 | 4,016 | 8,006 | 4,323 | 1,826 | 14,197 | 2,463 | 4,178 | 50,928 |
| Hospital Patient Fees | – | – | – | – | — | – | – | – | – | 20,845 | 24,591 | – | – | – | – | 44,188 |
| Other | 19 | 352 | 36 | 50 | 193 | 24 | 1,773 | 707 | 84 | 8,566 | 3,185 | 33 | 1,711 | 136 | 629 | 18,746 |
| Total | 1,738 | 1,813 | 4,238 | 6,258 | 11,370 | 5,815 | 9,891 | 14,362 | 9,286 | 91,681 | 77,415 | 5,187 | 68,012 | 8,692 | 16,867 | 332,625 |
| Expenditures | | | | | | | | | | | | | | | | |
| Administrative & General | 256 | 200 | 765 | 569 | 986 | 591 | 1,027 | 1,701 | 836 | 4,205 | 2,937 | 481 | 3,002 | 1,239 | 1,262 | 20,057 |
| Instruction | 1,146 | 715 | 2,461 | 2,298 | 4,409 | 2,231 | 5,156 | 7,229 | 3,764 | 21,753 | 21,042 | 1,824 | 17,988 | 3,181 | 7,048 | 102,245 |
| Sponsored Programs | – | 15 | 21 | – | 188 | 29 | – | 1,304 | – | 12,733 | 5,242 | – | 11,358 | – | 576 | 31,466 |
| Extension & Public Service | – | 339 | 23 | – | – | – | 375 | 428 | – | 3,710 | – | – | 12,631 | 257 | 296 | 18,059 |
| Libraries | 137 | 121 | 375 | 216 | 404 | 275 | 444 | 880 | 297 | 3,334 | 1,024 | 254 | 1,969 | 276 | 1,200 | 11,206 |
| Physical Plant | 95 | 124 | 556 | 286 | 928 | 662 | 720 | 1,333 | 268 | 3,744 | 2,901 | 682 | 3,885 | 768 | 1,443 | 18,395 |
| Student Aid | 26 | 137 | 37 | 50 | 113 | 42 | 564 | 346 | 87 | 4,736 | 1,433 | 143 | 1,662 | 283 | 539 | 10,158 |
| Auxiliary Enterprises | 171 | 147 | – | 2,576 | 3,993 | 1,912 | 1,207 | 1,280 | 4,016 | 7,935 | 4,377 | 1,926 | 12,439 | 2,353 | 4,297 | 48,629 |
| Hospitals | – | – | – | – | – | – | – | – | – | 26,581 | 35,443 | – | – | – | – | 62,024 |
| Other | – | – | – | 177 | 228 | – | – | 66 | 12 | 2,272 | 2,923 | 27 | 1,078 | 225 | 325 | 7,333 |
| Total | 1,831 | 1,798 | 4,238 | 6,172 | 11,249 | 5,742 | 9,493 | 14,567 | 9,280 | 91,003 | 77,322 | 5,337 | 65,972 | 8,582 | 16,986 | 329,572 |
| Surplus or (Deficit) | | | | | | | | | | | | | | | | |
| Educational | (108) | – | – | 1 | – | – | 237 | (368) | 6 | 953 | 164 | (50) | 282 | – | – | 1,117 |
| Auxiliary Enterprises | 15 | 15 | – | 85 | 121 | 73 | 161 | 163 | – | 71 | (54) | (100) | 1,758 | 110 | (119) | 2,299 |
| Hospital | – | – | – | – | – | – | – | – | – | (346) | (17) | – | – | – | – | (363) |
| Total | $ (93) | $ 15 | $ – | $ 86 | $ 121 | $ 73 | $ 398 | $ (205) | $ 6 | $ 678 | $ 93 | $ (150) | $ 2,040 | $ 110 | $ (119) | $ 3,053 |

# VIRGINIA PUBLIC SYSTEM OF HIGHER EDUCATION COLLEGES, UNIVERSITIES AND COMMUNITY COLLEGES



| ● | **Four Year Colleges and Universities** |
|---|---|
| 1 | Christopher Newport College |
| 2 | Clinch Valley College |
| 3 | George Mason University |
| 4 | Longwood College |
| 5 | Madison College |
| 6 | Mary Washington College |
| 7 | Norfolk State College |
| 8 | Old Dominion University |
| 9 | Radford College |
| 10 | University of Virginia |
| 11 | Virginia Commonwealth University |
| 12 | Virginia Military Institute |
| 13 | Virginia Polytechnic Institute and State University |
| 14 | Virginia State College |
| 15 | The College of William and Mary |

| ◓ | **Community and Two-Year Branch Colleges** |
|---|---|
| 16 | Blue Ridge Community College |
| 17 | Central Virginia Community College |
| 18 | Dabney S. Lancaster Community College |
| 19 | Danville Community College |
| 20 | Eastern Shore Community College |
| 21 | Germanna Community College |
| 22 | J. Sargeant Reynolds Community College |
| 23 | John Tyler Community College |
| 24 | Lord Fairfax Community College |
| 25 | Mountain Empire Community College |
| 26 | New River Community College |
| 27 | Northern Virginia Community College (5) |
|  | Alexandria |
|  | Annandale |
|  | Loudoun |
|  | Manassas |
|  | Woodbridge |
| 28 | Patrick Henry Community College |
| 29 | Paul D. Camp Community College |
| 30 | Piedmont Virginia Community College |
| 31 | Rappahannock Community College |
|  | (a) Warsaw |
|  | (b) Glenns |
| 32 | Southside Virginia Community College |
|  | (a) Christanna Campus |
|  | (b) John H. Daniel Campus |
| 33 | Southwest Virginia Community College |
| 34 | Thomas Nelson Community College |
| 35 | Tidewater Community College |
|  | (a) Frederick Campus |
|  | (b) Virginia Beach Campus |
| 36 | Virginia Highlands Community College |
| 37 | Virginia Western Community College |
| 38 | Wytheville Community College |
| 39 | Richard Bland College |

1924, and Longwood College in 1949. The College was first authorized to offer four-year curriculums leading to the degree of Bachelor of Science in education in 1916. The College has emphasized teacher preparation, although several degrees without teacher certification are offered. The College was authorized to grant master's degrees beginning in August 1955 and maintains a small graduate program designed to serve the practicing teachers of the local community.

Madison College was established in 1908. It was the second college to be chartered by the state for the education of women. The College was first known as the Normal and Industrial School for Women. Over the years its name changed several times until 1938, when it became Madison College, in honor of James Madison, the fourth President of the United States. In 1946, the College began accepting men students for the regular session under special authorization from the State Board of Education. In 1966, the General Assembly authorized the College to become a residential, coeducational institution and approved construction of dormitories for men. Since 1954, Madison has been authorized to offer graduate work at the master's level. In 1964, authority to govern the College was transferred from the State Board of Education to its own Board of Visitors.

Mary Washington College was established in 1908 as the Fredericksburg Normal and Industrial School for Women. The school offered the last two years of high school and the first two years of college, the latter designed largely for prospective teachers. In 1924, the General Assembly authorized a four-year curriculum leading to the degree of Bachelor of Science in education, though the two-year diploma was not discontinued until 1942. In 1938, the name of the institution was changed to Mary Washington College, and in 1944 the College was made the undergraduate college of arts and sciences for women of the University of Virginia. Emphasis was placed upon the liberal arts, and courses regarded as primarily vocational were either eliminated or continued for no credit. Early in 1970, restrictions on the admission of males were removed from Mary Washington's charter and the College became coeducational. Mary Washington College was separated from the University of Virginia and provided with its own Board of Visitors in 1972.

Norfolk State College was established in 1935 as the Norfolk unit of Virginia Union University to provide training on the junior-college level. In 1944 the College became a division of the Virginia State College. The College was authorized to offer the bachelor's degree in 1956. In 1968, the General Assembly passed an act that provided for the separation of the Norfolk division of Virginia State College; the division became Norfolk State College early in 1969.

Old Dominion University was founded as the Norfolk division of the College of William and Mary in 1930. Authorization was granted in 1954 to begin offering baccalaureate programs. In 1962, the institution was separated from the College of William and Mary and given a Board of Visitors of its own. The present name was adopted in 1969. In 1964, Old Dominion University began to offer graduate programs leading to the master's degree. In June 1971, authorization was granted to offer doctoral programs in civil engineering, electrical engineering, thermal engineering, and engineering mechanics.

Radford College was established by the General Assembly as the State Normal and Industrial School for Women at Radford in 1910. A four-year college curriculum leading to the Bachlor of Science degree was authorized in 1916, and in 1924, the name of the institution was changed to Radford State Teachers College. The General Assembly changed the name of the College to Radford College in 1944, and it was consolidated with the Virginia Polytechnic Institute as its women's division and placed under the Board of Visitors. In 1964, the General Assembly severed the affiliation with Virginia Polytechnic Institute, and Radford College was granted separate status with its own Board of Visitors. Although the College began offering graduate work in the early 1950's under the graduate school of VPI, it was not until 1964 that it was authorized by the State Council of Higher Education to award the Master of Science degree. In the summer of 1972, a change in enrollment policy permitted the College to become a coeducational institution.

The University of Virginia was founded by Thomas Jefferson and chartered by the General Assembly in 1819. Mr. Jefferson was elected the first Rector of the Board of Visitors, which included James Madison and James Monroe. The University opened for instruction in 1825, and in 1831, the Rector and the Visitors approved granting the Master of Arts degree. The degrees of M.D. and L.L.B. were added in 1829 and 1840, respectively. The Graduate School of Arts and Sciences was established in 1904 and the School of Education in 1919. A department of commerce and business administration became, in 1952, a separate entity known as the McIntire School of Commerce. A Graduate School of Business Administration was established in 1954, and two other divisions, architecture and nursing, attained separate status in 1954 and 1956, respectively. The University became fully coeducational in 1970.

Virginia Commonwealth University is the result of the merger of the Medical College of Virginia (MCV) and the Richmond Professional Institute (RPI). The MCV was created in 1838 as the medical department of Hampden-Sydney College; it became an independent institution in 1854 and a state-supported institution in 1860. The Richmond School of Social Work and Public Health opened in 1917. In 1925, the school became the Richmond Division of the College of William and Mary, and in 1939, the name of the institution was changed to Richmond Professional Institute (RPI) of the College of William and Mary. In 1962, the General Assembly separated RPI from the College of William and Mary and made it an independent state-supported institution. The 1968 General Assembly approved a recommendation that RPI be joined with MCV to form Virginia Commonwealth University, and the new university came into being in mid-1968.

Virginia Military Institute was established in 1839 by the General Assembly on the site of a military post and arsenal in Lexington. The post was transformed into a military college when young men were offered educational courses in return for protecting the arms store of the arsenal. The Institute and the Cadet Corps played a prominent role in the War Between the States, and the facilities were almost completely destroyed during the action in June 1864. By October 1865, the Institute was reopened and today continues its traditional and historically significant role of educating and preparing citizen soldiers in the fields of engineering, liberal arts, and sciences at the undergraduate level.

Virginia Polytechnic Institute and State University was founded as a land-grant college in 1872, under the name of Virginia Agricultural and Mechanical College. The name was changed to Virginia Agricultural and Mechanical College and Polytechnic Institute in 1896 and to Virginia Polytechnic Institute in 1944. The present name became effective in 1970. Instruction is offered in seven academic colleges and approximately 50 departments at the undergraduate level. Master's degrees are offered in approximately 60 fields and doctoral degrees in about 30 areas.

Virginia State College was established in 1882 by the General Assembly as Virginia Normal and Collegiate Institute. Located in Petersburg, it first opened its doors for admission of students in October 1883. The College's name was changed to Virginia State College in 1946. It is a multipurpose institution comprising four schools: education, humanities and social studies, science and technology, and business administration, as well as a school of graduate studies. The degrees of Bachelor of Arts, Bachelor of Science, and Bachelor of Music are offered in the undergraduate schools, and Master of Arts, Master of Education, and Master of Science degrees are offered by the graduate school.

The College of William and Mary was established under a charter granted in 1693 by King William III and Queen Mary II, "To erect, found, and establish a certain place of university study, or perpetual college, for divinity, philosophy, languages, and other good arts and sciences..." In 1779, under the direction of Thomas Jefferson, the College was reorganized and its curriculum revised. In 1881, following the War Between the States, the College was forced to suspend operations for lack of funds. It resumed operations in 1888 when the General Assembly enacted a statute establishing a normal school at the College. In 1906, the Commonwealth purchased the College and placed it under the control of a Board of Visitors, and in 1918, the College became coeducational. The College of William and Mary offers concentrations in 25 areas for the bachelor's degree, 17 areas for the master's degree, and four areas for the doctorate. Its Marshall-Wythe School of Law has the distinction of being the nation's oldest. The College of William and Mary is responsible for the administration of Christopher Newport College and Richard Bland College, a two-year institution.

A total of 23 community colleges, with 30 campuses, have been established to serve all regions of the Commonwealth. All are governed by the State Board of Community Colleges. Curricular offerings are tailored to each college's regional employment needs and generally include career-oriented programs in the agricultural and natural resources, arts and design, business, engineering, and industrial, health, and public service technologies. Future plans call for continued expansion of both physical facilities and curricular offerings at these commuter institutions and for the construction of additional campuses to serve three urban regions.

## Resources

In fiscal 1972, 89,545 students were enrolled in the 15 four-year institutions in the Virginia state system of higher education. The distribution of this enrollment is as follows:

| Student Level | Head-Count Enrollment |
|---|---|
| Lower Level | 36,295 |
| Upper Level | 33,341 |
| Graduate | 12,191 |
| Unclassified | 7,718 |
| Total | 89,545 |

The physical facilities of the colleges and universities represent a total plant investment exceeding $571-million. These facilities contain 19.3-million square feet allocated as shown below:

| Category | Percentage |
|---|---|
| Administrative and General | 3.8% |
| Instruction | 28.5% |
| Libraries | 6.2% |
| Research | 6.1% |
| Organized Activities | 2.9% |
| Extension and Public Service | 1.1% |
| Physical Plant Operation | 2.6% |
| Auxiliary Enterprises | 47.3% |
| Noninstitutional Agencies | 1.5% |
| Total | 100.0% |

Virginia's state-supported four-year colleges and universities employ a staff of 26,323 and represent a large business undertaking -- they spent approximately $329.6-million on operations in fiscal 1972. By categories, these funds supported the following activities:

| Category | Amount | Percentage |
|---|---|---|
| General Administration | $ 8,476 | 2.7% |
| Student Services | 5,728 | 1.7% |
| General Expense | 5,853 | 1.8% |
| Instruction and Research | 102,528 | 31.1% |
| Sponsored Programs | 31,466 | 9.5% |
| Extension and Public Services | 17,684 | 5.4% |
| Libraries | 11,206 | 3.4% |
| Physical Plant | 18,395 | 5.6% |
| Auxiliary Enterprises | 50,251 | 15.2% |
| Hospital and Medical Clinics | 62,051 | 18.8% |
| Student Aid | 7,602 | 2.3% |
| Other | 8,332 | 2.5% |
| Total | $329,572 | 100.0% |

Operating revenue sources for the 15 four-year colleges and universities were as follows:

| Category | Amount | Percentage |
|---|---|---|
| State Funds | $110,276 | 33.1% |
| Student Fees | 46,914 | 14.1% |
| Sponsored Programs | 35,339 | 10.6% |
| Student Aid | 7,606 | 2.3% |
| Auxiliary Enterprises | 52,544 | 15.8% |
| Hospital Patient Fees | 44,188 | 13.3% |
| Hospital State Funds | 16,225 | 4.9% |
| Other | 19,533 | 5.9% |
| Total | $322,625 | 100.0% |

## Economic Conditions

Population growth and economic conditions have a major effect on the future development of higher education and the resultant financial burden upon the state and its taxpayers. Virginia has a highly diversified and geographically dispersed manufacturing structure. Figures compiled by the Virginia Department of Labor and Industry show that almost every manufacturing category increased employment between 1960 and 1970. The largest gains were in electrical equipment, apparel, transportation equipment, furniture, chemicals, and textiles. According to the U. S. Department of Labor, manufacturing employment in Virginia increased by 31.7% from 1960 to 1971 and exceeded the rate averaged by the South Atlantic states as a whole (29.5%).

During the 1970 and 1971 downturn in manufacturing activity, the nation's manufacturing employment decreased by 8.1%, while Virginia's declined by only 2.4%. In the recovery in 1972, Virginia's growth rate of 4.6% was nearly three times the nation's 1.6%.

The U. S. Department of Commerce indicates that Virginians' personal income totaled about $18.4-billion in 1971. This was 151% more than in 1960 and higher than the national gain of 115%. When the consumer price index is used as a measure of inflation, the real gain in personal income was about 83% for Virginia and 57% for the nation. The department also showed that only six other states surpassed Virginia in per-capita income growth between 1960 and 1971.

The nearness of the nation's capital, together with the large military installations at Hampton Roads, has caused the state to feel the increase of Federal Government activities related to World War II and the later conflicts in Korea and in Vietnam. Thus federal employment is a significant factor in the Virginia economy.

Virginia's civilian labor force has increased by about 43,000 persons a year, or about 2.6% annually since 1960. Approximately 93% of the labor force is employed in nonagricultural jobs. The U. S. Department of Labor surveys consistently show Virginia to be one of the five states in the nation with the lowest unemployment rate.

Virginia's labor force is somewhat more expansive than that for the nation, because of the heavy migration of young people into the state since 1940. Thus, the state's population is generally younger than that of the nation.[3]

## Enrollment Projection

In the fall of 1972, more than 162,000 students were enrolled in Virginia's 71 public and private institutions of higher learning. This enrollment was distributed as follows: public four-year institutions, 55.7%; community colleges including one two-year branch college, 26.3%; and independent colleges and universities, 18.0%. Between 1968 and 1972, enrollments in these categories of institutions increased by 35.4%, 114.8%, and 6.8%, respectively. By 1982, they are expected to increase by 36.7%, 109.2%, and 12.7%, respectively, according to data published by the State Council of Higher Education. Overall, between 1968 and 1972, the total student enrollment in Virginia higher education institutions increased by 42.4%; whereas from 1973 to 1982, it is projected to increase by 37.1%.

The graph shown on the following page, "Virginia College-Age Population and Enrollment Distribution, Fiscal 1968 Through Fiscal 1982," illustrates the proportion of Virginia's college-age population enrolled in the three categories of institutions of higher education.

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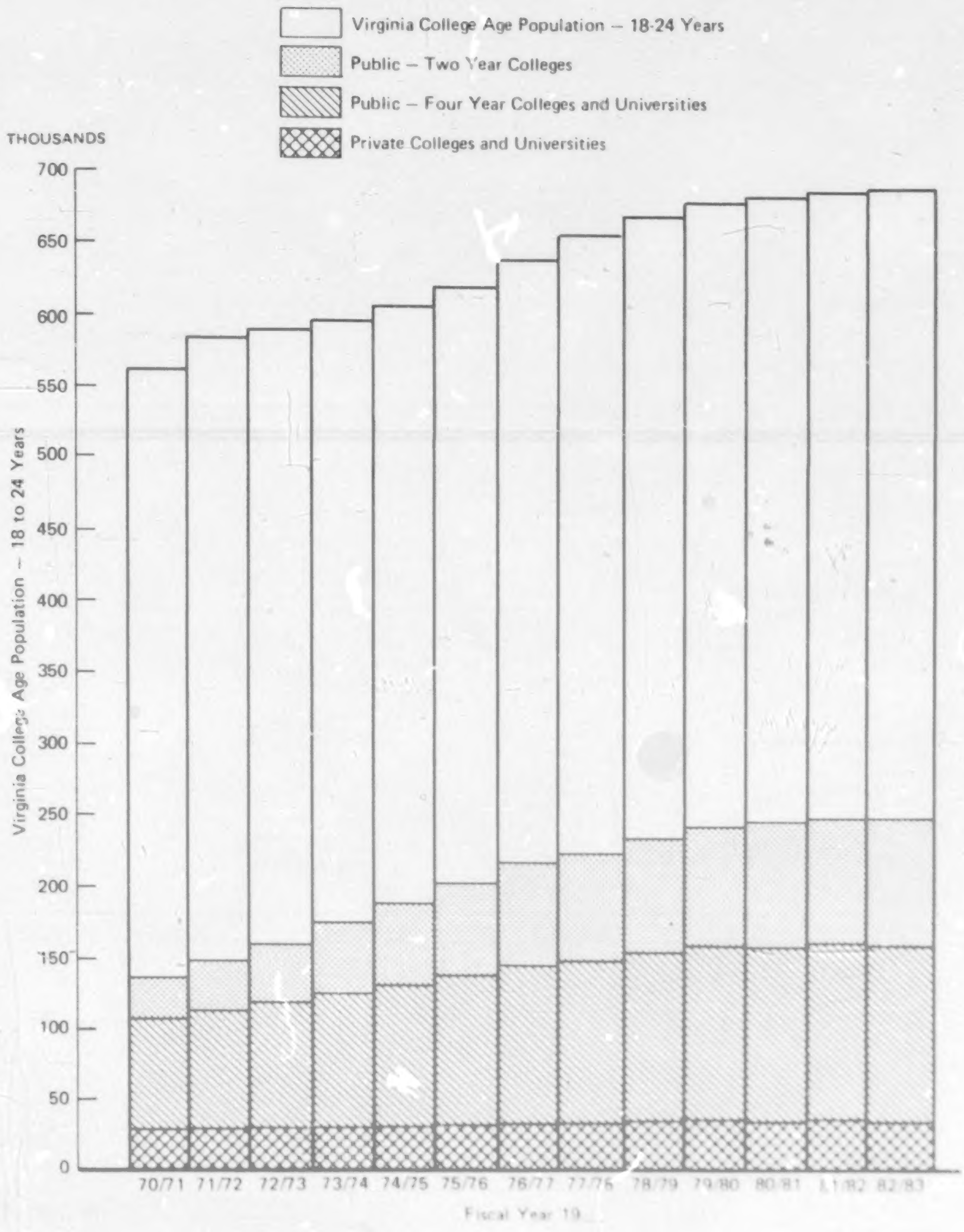
[3] Information in this section was obtained from "Virginia Facts and Figures," prepared by the Governor's Office of the Commonwealth of Virginia, Division of Industrial Development, Richmond, 1973.

# VIRGINIA COLLEGE AGE POPULATION AND ENROLLMENT
# FISCAL 1971 THROUGH FISCAL 1983



These data, which are based on data provided by the State Council of Higher Education and by the individual institutions, indicate the development of several important trends in Virginia higher education:

- Enrollments in higher education in future years will continue to grow, but at a decreasing rate.
- Private college enrollment will represent a continually smaller proportion of the number of students attending Virginia colleges and universities.
- Enrollment in the public four-year institutions will continue to grow, but at a decreasing rate.
- Community colleges will play an increasingly important role in higher education in Virginia.

Present and projected four-year institution enrollments of the Virginia system of public higher education are shown in the table on the following page. These data indicate head-count enrollment increases ranging from 3.4% at Longwood College to 113.1% at George Mason University. Overall, it is anticipated that these 15 institutions will increase their combined head-count enrollment by 36.8% by 1982. This is close to the 35.4% increase experienced from 1968 to 1972, and slightly less than the total projected state increase of 37.1%. Thus, although enrollments will continue to increase, the rate of growth will be approximately equal to the growth experienced during the past five years. On the other hand, Community College (including the one two-year branch college) head-count enrollment has been projected to reach 88,200 by 1982, an increase of 110.6% over the fall 1972 enrollment of 42,168.

# HEAD-COUNT ENROLLMENT

| | 1972 | 1982 | % Increase from 1972 to 1982 |
|---|---|---|---|
| Christopher Newport College | 2,305 | 4,023 | 74.5% |
| Clinch Valley College | 765 | 1,030 | 34.6% |
| George Mason University | 4,223 | 9,000* | 113.1% |
| Longwood College | 2,365 | 2,445 | 3.4% |
| Madison College | 5,492 | 7,155 | 30.3% |
| Mary Washington College | 2,165 | 2,403 | 11.0% |
| Norfolk State College | 5,858 | 8,100 | 38.3% |
| Old Dominion University | 10,439 | 14,700 | 40.8% |
| Radford College | 3,720 | 4,143 | 11.4% |
| University of Virginia | 12,907 | 15,900 | 23.2% |
| Virginia Commonwealth University | 14,406 | 21,800 | 51.3% |
| Virginia Military Institute | 1,072 | 1,200 | 11.9% |
| Virginia Polytechnic Institute and State University | 14,471 | 20,000 | 38.2% |
| Virginia State College | 3,769 | 4,512 | 19.7% |
| College of William and Mary | 5,588 | 6,060 | 8.4% |
| Total | 89,545 | 122,471 | 36.8% |

* State Council current working estimate

## Population Trends

Population growth is generally a good indicator of the economic health of a state. Population trends, in turn, condition the projected growth of higher education institutions.

In June 1973, Tayloe Murphy Institute of the University of Virginia estimated that in the period from April 1, 1970, to July 1, 1972, Virginia grew at the same rate as the nation as a whole.[4] However, during the 1960's, Virginia grew somewhat faster than the nation. The declining birth rate has caused a general slowing down in population growth, both in Virginia and the country as a whole. In Virginia, this decline has been accompanied by a slowing of migration into the state, causing the overall growth rate to decrease during the period since the 1970 census.

Virginia's population increased an average of 9.7% for each ten-year period from 1900 to 1940; this rate increased to 23.9% between 1940 and 1950 and then decreased at a slower rate of 19.2% and 17.6% for the 1950-60 and 1960-70 census periods, respectively. The Division of State Planning and Community Affairs projects a population of 5,415,000 by 1980. By then, it is estimated that the urban corridor will contain 77% of the people of the state.

More than 7% of the state's population is estimated to be between the ages of 18 and 21. As a result of the post-World War II baby boom, this group, as a percentage of the total state population, has increased by more than 2% during the past 10 years; yet it is estimated that it will decrease slightly -- by 0.5% -- by 1980. However, the proportion of the population represented by this age group has significant ramifications for the state's ability to finance higher education. Large enrollments require increasing financial resources. The high percentage of working-age individuals pursuing education and the lower birth rates from 1925 through 1945 result in fewer contributors of tax revenue.

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[4] Tayloe Murphy Institute, University of Virginia, Graduate School of Business Administration, Charlottesville, Virginia, June, 1973.

In recent years, Virginia has substantially increased its support of higher education. In the decade between 1960 and 1970, appropriations for higher education as a whole in Virginia increased by 356%. The general fund appropriations for all state-supported institutions of higher learning increased by 49% in the 1968-70 biennium over the 1966-68 biennium and by another 45% in the 1970-72 biennium. Per-capita appropriations, however, are still less than the national average. In fiscal 1973, Virginia appropriated $185,756,000, or $40.35 per capita for a national ranking per capita of 29th. The national average for that year was $41.46. These figures are indicated in the table on the following page, "Per Capita Appropriations for Higher Education - Fiscal 1973."

## PER CAPITA APPROPRIATIONS FOR HIGHER EDUCATION
## FISCAL 1973

| Rank | State | Appropriation Per Capita |
|---|---|---|
| 1 | Hawaii | $84.95 |
| 2 | Alaska | $73.75 |
| 3 | Arizona | $58.86 |
| 4 | Wisconsin | $56.94 |
| 5 | Washington | $55.92 |
| 6 | Wyoming | $53.71 |
| 7 | Utah | $51.02 |
| 8 | California | $50.14 |
| 9 | Colorado | $49.80 |
| 10 | Oregon | $49.10 |
| 27 | Kansas | $41.80 |
| 28 | South Carolina | $40.42 |
| 29 | VIRGINIA | $40.35 |
| 30 | Texas | $40.32 |
| 31 | Indiana | $39.86 |
| 46 | Alabama | $30.54 |
| 47 | Ohio | $30.19 |
| 48 | Arkansas | $28.63 |
| 49 | Massachusetts | $26.79 |
| 50 | New Hampshire | $16.79 |
| | Average U. S. | $41.46 |

# III. STATE LEVEL MANAGEMENT

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In the United States, the establishment of state-level agencies to coordinate or govern public systems of higher education has, to a considerable extent, followed the growth of the states' providion of public higher education. In 1940, two-thirds of the states, including Virginia, had no state agency responsible for coordinating the public institutions of higher education. At the same time, 53% of the students enrolled in higher education were in public colleges and universities. Twenty years later, in 1960, 58% of the students were in public institutions of higher education, and two-thirds of the states had created some form of coordinating agency. By 1970, more than 72% of the students were enrolled in public institutions, and by this time, 96% of the states had a coordinating agency of some type.

With the increasing percentage of enrollments in state systems of higher education, larger and larger commitments of the state revenues were required. However, though some form of state agency was established, usually they were imposed upon colleges and universities with long traditions of autonomy of management. And, unfortunately, this tradition usually was not disrupted by the educational agency created. Authority sufficient to enable significant management, planning, and coordination of public higher education was seldom granted by statute.

The essence of the work of the state-level educational group, however termed, was often advisory, and accomplishment was little except as might be seen to enhance the prior positions of burgeoning institutions.

Often the development of a state agency to provide some form of coordination of the public system began with the institutions themselves forming a voluntary coordinating agency. However, these voluntary agencies did not work well, and the greatest unanimity was achieved when no institution's ox was gored, and this was not always consistent with the public interest. In the next phase, a coordinating body was created by statute, but often it had so little authority that accomplishment was miniscule when compared to the need. In recent years, some legislatures have become impatient with this lack of management and have dissolved all institutional boards and centralized all authority in a single state-level governing board.

## Public Higher Education in Virginia

Early in the 19th century, Thomas Jefferson outlined a complete system of higher education for which the University of Virginia was to serve as the capstone. However, even though a fine university was founded in Charlottesville and certain of the public institutions now exist in cities he identified, Jefferson's system was never established.

In terms of original purpose or mission, many of the 15 state-supported colleges and universities were founded to suit the special needs of men (Virginia Polytechnic Institute and State University, the University of Virginia), women (the Colleges of Radford, Longwood, Mary Washington, and Madison), the military (Virginia Military Institute), blacks, (Virginia State College and Norfolk State College), students in urban regions (Virginia Commonwealth University, Old Dominion University, Christopher Newport College, and George Mason University), and a rural area (Clinch Valley College).

The special origin of each of Virginia's colleges and universities illustrates that they were not designed to serve the comprehensive needs of the general public. This particular orientation has complicated public higher education in Virginia, because the original needs have changed in recent years due to rapidly changing social values, economics, traditions, and mores. Advances in transportation systems also have affected the continuing utility of several of the institutions established in rural areas.

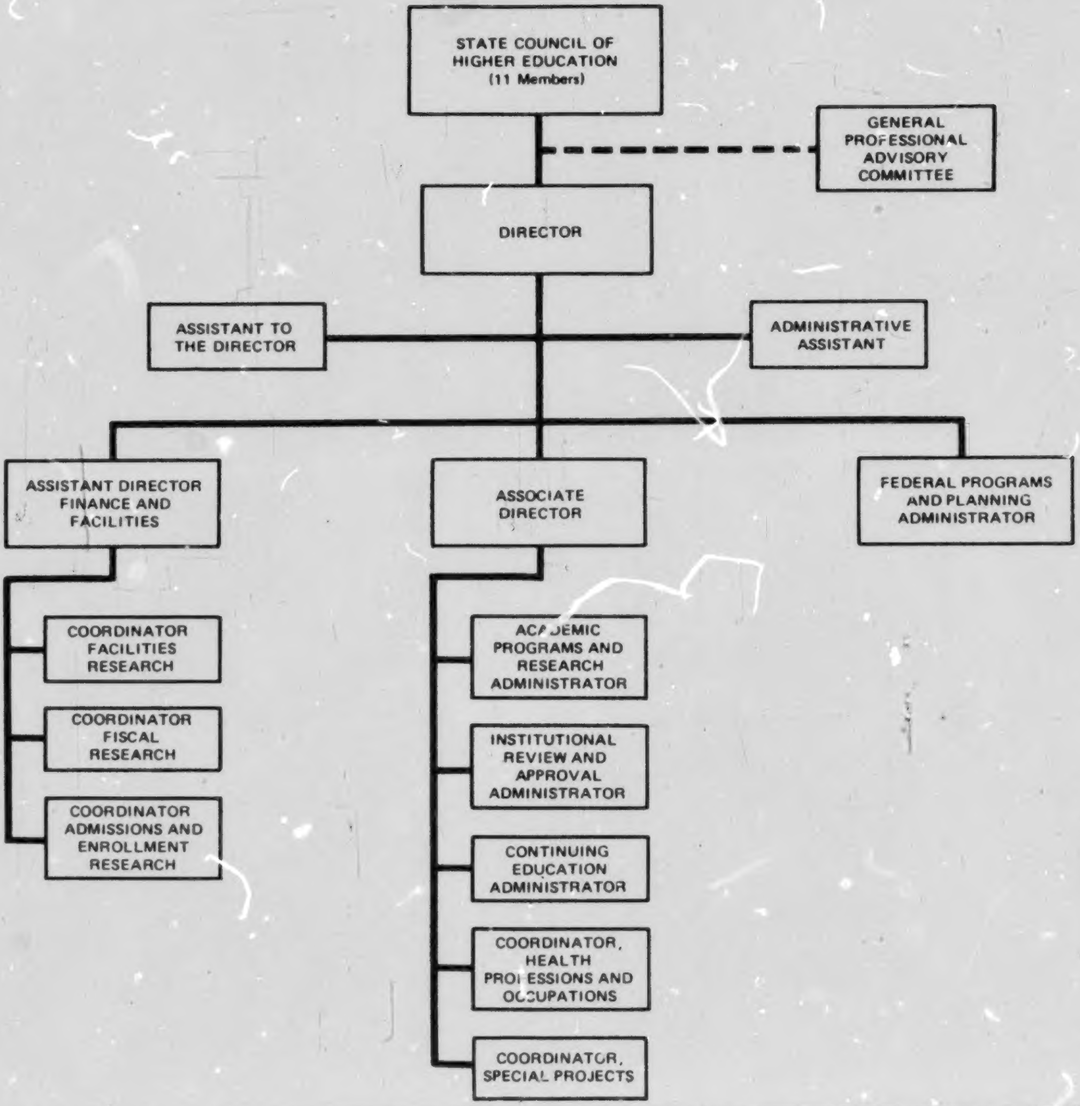
## The State Council of Higher Education

Until 1956, no state agency existed in Virginia to coordinate the state's public institutions of higher education. In that year, the General Assembly established the State Council of Higher Education for Virginia, "...to promote the development and operation of a sound, vigorous, progressive, and coordinated system of higher education in the state of Virginia." The council consists of 11 members appointed for four-year terms by the Governor subject to confirmation by the General Assembly. An extensive structure of advisory committees reports through the General Professional Advisory Committee, which comprises the presidents of the senior institutions and the Chancellor of the State Board of Community Colleges. A 27-member staff is employed and headed by the director, as shown on the organization chart on the following page.

The council's major assigned functions have consisted of reviewing and approving all new degree programs and coordinating the development of a master plan for higher education. Providing it first obtains approval of the Governor, the council has the authority to limit any institution's curricular offerings consistent with the plans adopted by the council. The council also is responsible for coordinating off-campus extension and public service offerings of all state-controlled institutions of higher education. In addition, it researches and publishes reports on a variety of subjects with statewide implications: utilization of instructional space, enrollment, admissions applications, degrees conferred, operational costs, and others. The council has little substantive financial authority or responsibility for either annual operating fund or capital requirements of the public system. Its fiscal 1973 budget was $450,000.

The influence of the council on private and proprietary education is necessarily limited; however, the council maintains information concerning it. The council also must approve any institution before it may confer a college degree in Virginia. The public system it seeks to

## STATE COUNCIL OF HIGHER EDUCATION FOR VIRGINIA
## PRESENT ORGANIZATION
July 1, 1973


STATE COUNCIL OF HIGHER EDUCATION (11 Members)
GENERAL PROFESSIONAL ADVISORY COMMITTEE
DIRECTOR
ASSISTANT TO THE DIRECTOR
ADMINISTRATIVE ASSISTANT
ASSISTANT DIRECTOR FINANCE AND FACILITIES
ASSOCIATE DIRECTOR
FEDERAL PROGRAMS AND PLANNING ADMINISTRATOR
COORDINATOR FACILITIES RESEARCH
COORDINATOR FISCAL RESEARCH
COORDINATOR ADMISSIONS AND ENROLLMENT RESEARCH
ACADEMIC PROGRAMS AND RESEARCH ADMINISTRATOR
INSTITUTIONAL REVIEW AND APPROVAL ADMINISTRATOR
CONTINUING EDUCATION ADMINISTRATOR
COORDINATOR, HEALTH PROFESSIONS AND OCCUPATIONS
COORDINATOR, SPECIAL PROJECTS

coordinate consists of 15 institutions governed by 13 boards of visitors and a community college system of 23 schools governed by the State Board of Community Colleges.

## SUMMARY OF FINDINGS

The tabulation on the following page, entitled "Statistical Trend Data," indicates that the expenditures of Virginia's public system of higher education were about $330-million in fiscal 1972 and will more than double to $750-million/year in less than 10 years. In 1972/73, the full-time-equivalent student enrollment in the public system of higher education was 110,747, which represents a growth of 50% since 1968/69. By 1980, another 50% increase is projected. Capital investments were almost $75-million in the 1970-72 biennium, and an additional $76-million is forecast for the 1972-74 biennium. Altogether, Virginia's public institutions of higher education represent an investment of almost $575-million. Thus, the public system of higher education in Virginia is an enormous, complex, human financial endeavor.

For either quality of education or economy of education to exist under these circumstances requires management of the highest order. Our findings indicate this does not occur at either the institutions or the state level.

- Relative to the need the State Council of Higher Education, as presently constituted, has very little substantive influence on the coordination and development of higher education in Virginia. Its influence on financial planning and operation

# STATISTICAL TREND DATA

| | 1968/69 | 1969/70 | 1970/71 | 1971/72 | 1972/73 | 1980/81 |
|---|---|---|---|---|---|---|
| **Number of Institutions** | | | | | | |
| 4-yr. Colleges and Universities | 13 | 14 | 15 | 15 | 15 | 15 |
| 2-yr. Branches | 5 | 3 | 3 | 1 | 1 | 1 |
| Community Colleges | 11 | 13 | 16 | 21 | 23 | 23 |
| Vocational/Technical | 2 | | | | | |
| **Student Enrollment, FTE** | | | | | | |
| 4-yr. Colleges and Universities | 61,270 | 66,480 | 72,217 | 76,940 | 82,002 | 106,884 |
| Community Colleges | 12,601 | 16,655 | 20,895 | 25,729 | 28,987 | 59,024 |
| Total | 73,871 | 83,135 | 93,112 | 102,669 | 110,989 | 165,908 |
| **Expenditures (thousands)** | | | | | | |
| 4-yr. Colleges and Universities | $215,122 | $249,164 | $288,820 | $325,068 | $315,195[1] | $646,578 |
| Community Colleges | 17,241 | 19,424 | 24,253 | 30,410 | 42,431[1] | 117,443 |
| Total | $232,363 | $268,588 | $313,073 | $355,478 | $357,626[1] | $764,021 |
| **State Operating Support (thousands)** | | | | | | |
| 4-yr. Colleges and Universities | $ 84,421 | $ 94,247 | $114,548 | $128,685 | $145,363[1] | |
| Community Colleges | 11,847 | 14,166 | 16,373 | 21,118 | 33,057[1] | |
| Total | $ 96,268 | $108,413 | $130,921 | $149,803 | $178,420[1] | $320,000[2] |

| | 1970-72 | 1972-74 |
|---|---|---|
| **Added Capital Investment (thousands)** | | |
| 4-yr. Colleges and Universities | $61,504 | $53,610 |
| Community Colleges | 13,302 | 22,892 |
| Total | $74,806 | $76,502 |

[1] 1972/73 appropriations only

[2] Extrapolation

of the system is limited. The council's authority is mainly advisory.

- Virginia does not have a system of public higher education; rather, it has 15 state-supported colleges and universities. Because of a lack of state-level coordination, each institution necessarily and independently determines its mission and prescribes the manner in which it will serve the state. The needs of the state as the whole have not been addressed. Thus, Virginia has inadvertently funded the needs of institutions rather than the needs of the general public for higher education.

- No master plan exists to guide the development of public higher education for the state, nor are comprehensive plans documented for any of its institutions. Over the years, the institutions of higher education have proceeded according to their own inclinations - some towards national preeminence, some towards almost self-defined excellence, and others toward complacent mediocrity - but none has based its direction on a comprehensive determination of the public need and how to serve it.

- Ten small, uneconomical colleges and universities could handle the entire present enrollment of 80,000 full-time-equivalent students in Virginia's senior institutions. However, the state has 15 colleges and universities, an arrangement that is even less economical.

- There is little evidence that the private system of higher education has been substantively considered in the organization, planning, and provision of resources for the development of public higher education.

- The development of the public community colleges has not been well integrated with that of the senior institutions. Duplications have occurred, and will continue to occur, until well-coordinated plans encompassing both the two-year and the four-year schools are developed.

- Because of a lack of planning and management control at the state level, $80-million have been invested in classrooms that are not required. Though in some cases these classrooms exist in the wrong location, their capacity is adequate for an additional 43,000 students, or more than the enrollment projected through 1982/83. Several institutions have been provided capital sufficient for twice their current enrollments, yet these institutions are allowed to decide that these facilities will remain idle or not be used to capacity.

- Utilization of space is inaccurately measured and loosely controlled. Compliance with present space utilization standards does not represent a level of achievement commensurate with the hundreds of millions of dollars of capital invested in building resources. Classroom utilization standards used in the capital review procedures are too low by almost one-third.

- The system of providing operating funds to the colleges and universities perpetuates the mistakes of the past. Current budget guidelines are inaccurate.

- Approximately $7-million per year is spent on computers, systems, and programming. Despite common needs for systems, each institution has its own staff independently developing separate solutions to the same problems at great expense. Although the magnitude of the capital investment and operating funds required to support computer activities is great, no structured plans exist either for their priority application at the institutions or the managerial requirements at the state level. Thus, each institution has reinvented the wheel of administrative systems, particularly in the areas of accounting, budgeting, management reporting, registration, and classroom scheduling.

- Libraries represent a vast uncontrolled dollar sink. State support formulas encourage retention of obsolete books, and ultimately library facilities must be expanded to house these same obsolete books at great expense. Collections are not well planned for academic program needs, nor are they economically purchased or housed.

- The existing state-level authority of the State Council of Higher Education is inadequate to enable appropriate management and development of Virginia's public system of higher education. No other agency of government or the General Assembly has either the time or the knowledge to provide effective management.

## RECOMMENDATIONS FOR IMPROVEMENT

In public systems of higher education, two extremes are possible: In one, each institution has complete autonomy of management, and in the other, a centralized authority or singular board is designated to manage the entire system and all boards of visitors are dissolved. In a system as large as that of Virginia, both extremes are equally inappropriate. If complete autonomy of management were granted to each institution, the coordinated development of the public system of higher education would be impossible. On the other hand, highly centralized management of large systems fail on their own weight of detail.

The critical task then is to determine a proper balance between the two extremes - in which institutional autonomy is maintained insofar as possible, yet there is the assurance that the interests of the general public are served in an economical and responsible manner. As described previously, our approach in this management review was to determine this balance by assessing the management needs of the institutions individually and of the system as a whole and then designing a structure for fulfilling these needs at the state level.

The management needs of Virginia's public system of higher education can be broadly categorized under the headings of planning, funding, and administrative services. A state-level agency must have the authority and the responsibility for the development of a state-wide plan for higher education. Because there is no point in developing the plan unless authority exists to implement it, a manner of funding must be developed through which the plan can be achieved. Neither planning nor funding can take place without information developed on the same basis; thus, the state-level agency must be able to require that information sufficient for its needs be provided by the institutions. In addition, certain administrative systems for use by the institutions can be provided more economically on a centralized basis.

1. Expand the authority and responsibility of the State Council of Higher Education, and redesignate it the Virginia Board of Regents.

When established in 1956, the State Council of Higher Education represented an excellent first step toward providing the coordination needed by higher education. However, the authority granted the Council was insufficient for real management, planning, and coordination.

Because public higher education represents general fund appropriations of more than $185-million per year and an additional $38-million per year for capital construction, responsible government could not and did not ignore the system's management needs. Over the years, various ad hoc committees and commissions have studied the problems - ranging from the very comprehensive study of the Virginia Higher Education Study Commission in 1965, to the several studies of computers and system requirements, to the present General Assembly Commission on Higher

Education. The Executive Office has imparted additional control through its budgeting, centralized purchasing, personnel, and financial systems.

However, despite the efforts, interests and intents of these groups, the management required by the system has not occurred. We cite the following as our reasons for this statement:

- Too many institutions of higher education have been constructed.
- Excess capacity at several institutions represents a waste of more than $48-million. The situation is complicated because some schools refuse to grow, others cannot, and still others are making aggressive efforts to expand.
- The needs of the general public are not comprehensively addressed for the state as a whole. Because the public institutions are not guided by a state-level plan, they cannot separately determine roles for themselves with any confidence that the state's needs will be served.
- Although the council has the authority to approve all new degree programs, it does not have the authority to discontinue unneeded programs. If a program no longer is required and does not serve a state need, the council cannot discontinue funding.
- The inaccurate manner of state financing of the institutions perpetuates the status quo and is not directed by an office with sufficient knowledge to determine the need for or the adequacy of funding.

Neither the planning, the development, nor the management of a public system of higher education can be accomplished by ad hoc committees. The Council of Higher Education having essentially advisory authority cannot do it either.

Quality of education and quality of management are not mutually exclusive. Thus, it is of paramount importance that management of Virginia's public system of higher education be strengthened. To accomplish this, we recommend that the State Council of Higher Education be redesignated the Virginia Board of Regents and that its authority and responsibility be expanded to include:

- Preparation of a documented comprehensive master plan to guide the development of the higher education in Virginia. This plan must include the public four-year colleges and universities, the community colleges, as well as appropriate consideration of the private schools. The plan must be maintained current on at least an annual basis and require the provision of documented plans by each institution in context with it.
- Allocation of capital and operating funds to achieve implementation of the master plan -- capital through development of a state-wide priority to implement the plan and operating funds through a budget formula.
- Approval of new degree programs and the discontinuance of unnecessary programs. The basis for either of these decisions will be the master plan, the interests and needs of the general public, and the prudent use of state funds. This authority should not preclude an institution from funding rejected programs from other sources that might be available to it.
- Projection of enrollments for the state and the coordinated development of enrollment objectives for each institution in a manner that implements the master plan.
- Exercise of functional authority over the provision and use of:
  - Chart of Accounts
  - Accounting manual
  - System of accounting for state purposes
  - System of budgeting for state purposes
  - Data as input to a comprehensive information system required for use in planning as well as for other board purposes
  - Space standards and inventories.

- Provision of certain administrative services:
    - A state-wide network of computers serving the entire public system of higher education as a utility.
    - Systems and programming services for common institutional requirements, such as accounting, budgeting, registration, admissions, classroom scheduling, library acquisition and circulation, and comprehensive management information systems.
    - Training programs for custodial management, maintenance management, food service management, inventory control, library management, space utilization management and control, educational technology (that is, innovative use of television, computers, audio-visuals, library technology, etc.), program planning and budgeting systems (PPBS), and orientation of new members of boards of visitors to the state system and to recommended policies and procedures of college and university management.

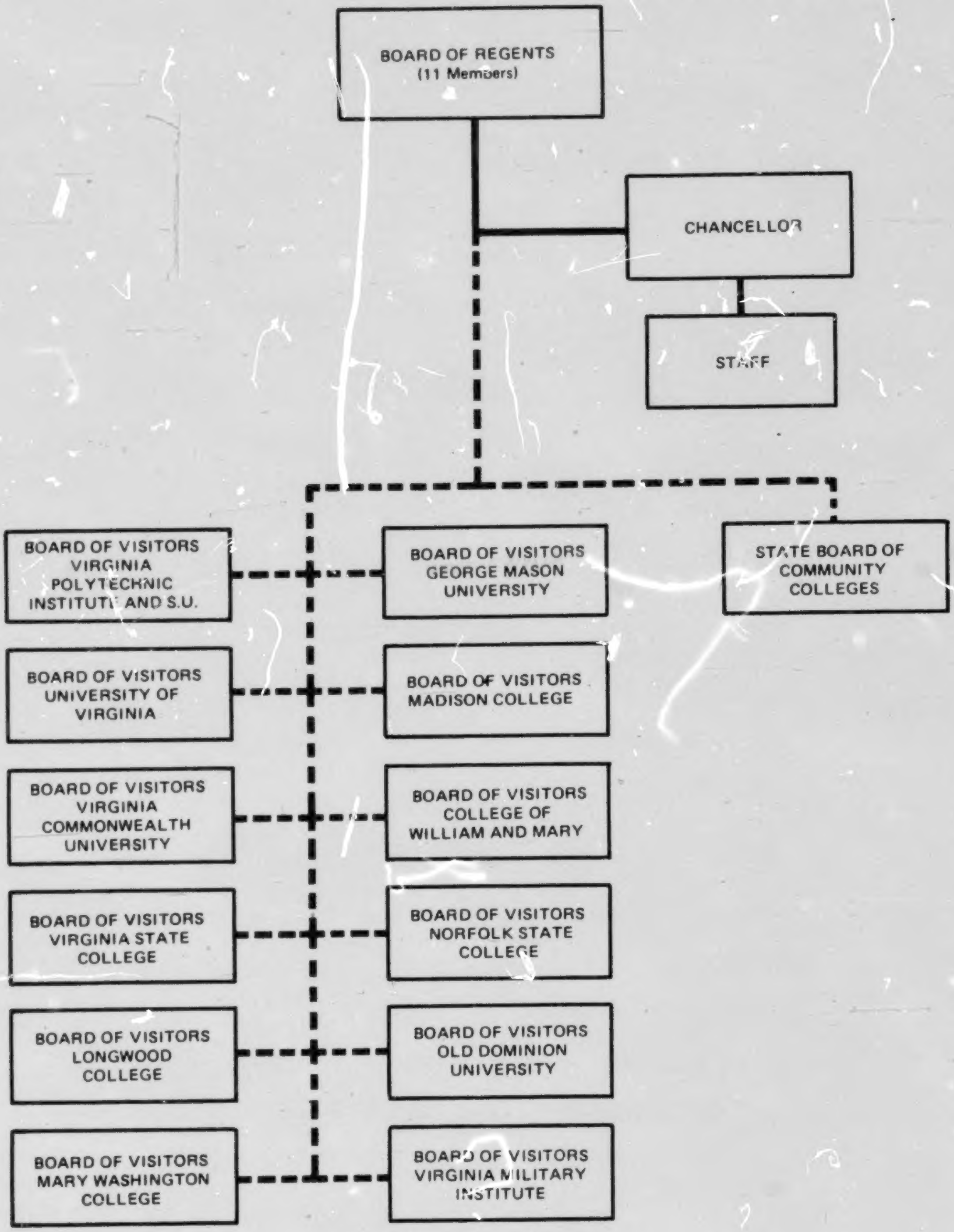
- Provision of educational leadership to the state based upon its long-range forecast of changes in technology, developments in knowledge, and the needs of society. Included should be innovations and changes in curriculum as well as the manner by which it is offered, for example, three-year baccalaureate programs and the developing field of instructional technology.

As shown by the chart on the following page, the Board of Regents would be supported by a staff headed by a Chancellor. The broken lines indicate that the board would coordinate the entire public system of higher education -- the community colleges as well as the four-year colleges and universities.

2. Staff the Board of Regents consistent with its function and prescribed authority and responsibility.

Effective implementation of the functions, authority, and responsibility of the Board of Regents, as outlined in Recommendation No. 1, by

# VIRGINIA BOARD OF REGENTS
# VIRGINIA HIGHER EDUCATION


BOARD OF REGENTS (11 Members)
CHANCELLOR
STAFF
BOARD OF VISITORS VIRGINIA POLYTECHNIC INSTITUTE AND S.U.
BOARD OF VISITORS GEORGE MASON UNIVERSITY
STATE BOARD OF COMMUNITY COLLEGES
BOARD OF VISITORS UNIVERSITY OF VIRGINIA
BOARD OF VISITORS MADISON COLLEGE
BOARD OF VISITORS VIRGINIA COMMONWEALTH UNIVERSITY
BOARD OF VISITORS COLLEGE OF WILLIAM AND MARY
BOARD OF VISITORS VIRGINIA STATE COLLEGE
BOARD OF VISITORS NORFOLK STATE COLLEGE
BOARD OF VISITORS LONGWOOD COLLEGE
BOARD OF VISITORS OLD DOMINION UNIVERSITY
BOARD OF VISITORS MARY WASHINGTON COLLEGE
BOARD OF VISITORS VIRGINIA MILITARY INSTITUTE

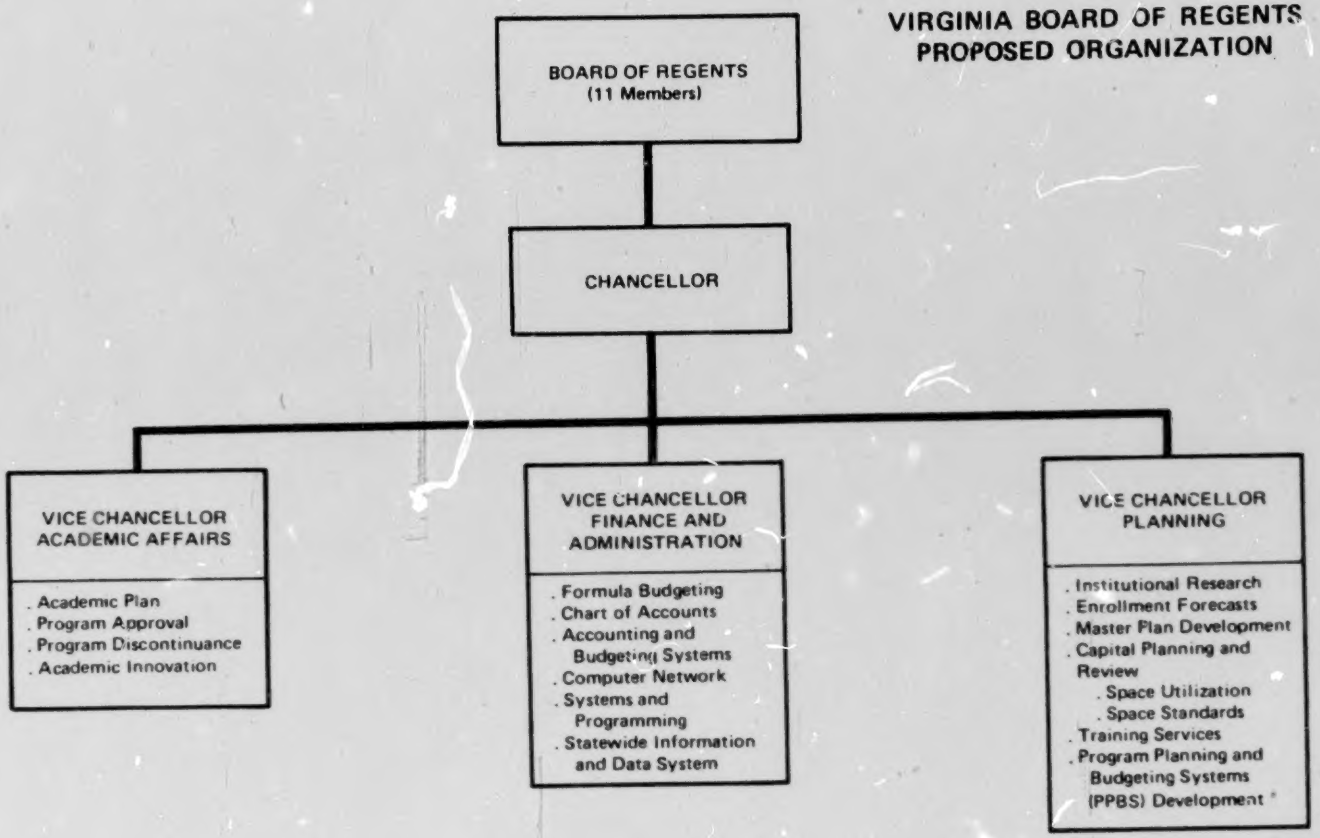
a qualified and competent staff will provide a means by which the full potential of higher education can be realized and the greatest use obtained from available resources.

As shown by the organization chart on the following page, the proposed staff of the Board of Regents would be headed by a Chancellor. This position should be regarded as equal to the senior president of the public system with a salary at a comparable level. Major responsibility would be delegated to three Vice Chancellors in charge of Academic Affairs, Finance and Administration, and Planning. These positions are major responsibilities to which the Commonwealth of Virginia would be well advised to attract the most outstanding men available in the nation.

To function successfully, the Board of Regents must maintain itself objectively; it cannot be part of the public institutions of higher education nor can it be a part of the state administration. For this reason, we suggest that the first Chancellor be provided a three-year contract with a salary provision. Later, as the board matured, this provision might be discontinued as unnecessary. Initial staffing should be at a conservative level and expanded only on the basis of proven necessity. It is estimated that an annual budget of $750,000 would provide sufficient latitude for the Board of Regents to fulfill its function.

3. Assign responsibility for the development, maintenance, and implementation of a master plan for higher education to the Board of Regents.

# VIRGINIA BOARD OF REGENTS
# PROPOSED ORGANIZATION



**BOARD OF REGENTS**
(11 Members)

**CHANCELLOR**

**VICE CHANCELLOR ACADEMIC AFFAIRS**

. Academic Plan
. Program Approval
. Program Discontinuance
. Academic Innovation

**VICE CHANCELLOR FINANCE AND ADMINISTRATION**

. Formula Budgeting
. Chart of Accounts
. Accounting and Budgeting Systems
. Computer Network
. Systems and Programming
. Statewide Information and Data System

**VICE CHANCELLOR PLANNING**

. Institutional Research
. Enrollment Forecasts
. Master Plan Development
. Capital Planning and Review
  . Space Utilization
  . Space Standards
. Training Services
. Program Planning and Budgeting Systems (PPBS) Development

The single most important void in management at both the institutional and the state level is the lack of a comprehensive plan designed to guide the development of higher education in Virginia. The accomplishments of the system, at best, are a matter of chance, but never approach their potential.

At present, the type and scope of the general public's need for higher education are undefined. The most recent efforts to make this determination were those of the Virginia Higher Education Study Commission in 1965. Temporary direction was provided by that study. However, the momentum of its direction has long since been lost.

In 1967, the State Council of Higher Education published the Virginia Plan for Higher Education; however, this was little more than a compendium for the aspirations of the senior public institutions of higher education. Private higher education was acknowledged to exist, and the community colleges were viewed as a development that was occurring. But the plan did not represent a structured approach to meeting the higher education needs of the general public through considered coordination - separately or in combination - of the public four-year and two-year institutions with the private colleges and universities. A strategy for development was not included, nor was there any quantification of the financial implications. Thus, the Virginia Plan for Higher Education was not a plan.

As previously discussed, the four-year public institutions of higher education in Virginia were originally founded for particular purposes according to the traditions, manner of living, systems of transportation, and social mores of the times. As times changes and new needs developed, new institutions were added, the most recent being those serving the large urban areas; however, in each instance, all previous institutions were continued. As a result, today Virginia has 15 four-year public institutions of higher education.

In a later section of this report, we recommend that one college be closed and that, if confirmed by an academic plan, another two institutions be discontinued as separate colleges. Particularly with a total of 23 community colleges, it would be unusual if a well-developed master plan did not show that one or two other four-year colleges should be closed. These recommendations illustrate our contention that the public system of higher education is not being addressed as a system at the state level.

This lack of state-level consideration also manifests itself in another way; that is, the need for programs of higher education has not been determined. For example, Norfolk State College and Virginia State College are performing a vital role in reaching out, inspiring, and motivating blacks, many of whom would be ill-at-ease attending other public institutions. A special expertise in the provision of remedial education has been developed. However, neither the State

Council of Higher Education nor the colleges themselves have done enough research to identify the number of potential students in the state requiring this kind of program. Therefore, it is not known whether the program should be considerably expanded, stay the same, or be reduced.

Another example of the failure to identify program needs is illustrated by the University of Virginia and the College of William and Mary, where no research has been performed to determine need for the kind of enriched programs that these two institutions purport to offer. Although 2,300 students were accepted for admission to these two institutions in 1972, it is not known whether 1,000, 2,000, or 20,000 students in Virginia require these high-quality programs.

We are not implying that these programs are not necessary or desirable. Rather, the needs of the general public for higher education should be identified, priorities determined, and plans made to fulfill them in the public institutions of higher education. This should be a matter of state policy and determination - not a matter of coincidence with the interests and aspirations of individual institutions.

Several schools have indicated that they intend to remain small, because they think this enables a higher quality of programs to be offered. However, the need for this kind and quality of programs has not been determined for the state as a whole.

Existing classroom capacity at the public institutions is sufficient to handle enrollments projected through 1982. However, a large part of this excess capacity exists at institutions that have decided not to grow, for example, the College of William and Mary, the University of Virginia, and Longwood College. Other institutions do not have programs that will attract students, so their facilities are not used, for example, Radford College, Mary Washington College, and Virginia State College. Contrasted with these conditions are those at Virginia Polytechnic Institute and State University and at Madison College, where powerful pressures exist for continuing enrollment growth.

Legitimate requests will be made for capital outlays at these institutions so they can accommodate their growing enrollments. However, a state-level decision has to be made on the use of excess classroom facilities at other institutions, which represents approximately $80-million and can accommodate 43,000 additional students. If strong coordination and planning are not accomplished, these resources will remain idle, while additional millions of dollars are spent to construct duplicate facilities.

In summary, planning processes of Virginia public higher education are very weak. No organization, either at the state level or the institutional level, has been assigned the responsibility for developing comprehensive plans. There is no state-wide master plan, and there are no institutional plans, documented academic plans, or financial plans. Although there are facilities plans, these are questionable because they have not been preceded by the determination of needs or the development of academic and nonacademic requirements of the individual institutions as well as the system as a whole.

A comprehensive plan must be based upon research that considers the needs of the students, the state, and society in relation to changes in technology and knowledge -- both existing and forecasted. By considering these needs and enrollment projections, an academic plan then should be developed. In support of the academic plan, a nonacademic plan also must be formulated so sufficient and appropriate support is provided to enable implementation of academic plans. In addition, facilities plans and a financial plan, quantifying the implications of the academic, the nonacademic, and the facilities plans for annual operating expenses as well as for capital requirements, must be included. Finally, a plan for each individual institution must be developed in context with the statewide plan.

In order to develop a comprehensive long-range plan, we suggest the following steps:

- Identify the needs for higher education in terms of society, the state, and the students in a manner that addresses the changes in knowledge and technology forecasted for the next 20 years. Sociological, economic, and demographic trends also must be taken into account.

- Develop a mission for each public institution, four-year and two-year, together with enrollment forecasts for each in detail sufficient to allow structured application of the capabilities of each institution. An academic plan must be developed in which existing curriculums in higher education are examined for their contribution to the fulfillment of the identified needs and then modified accordingly. The offerings of each institution must be inventoried and compared with forecasted needs, so that the voids can be identified and placement of suitable programs planned. Included must be an evaluation and designation of the proper role of the four-year institutions as well as the community colleges. Private higher education also must be considered, because, whatever the posture of the state towards private higher education, it should be determined by plan and not by inattention to the existence of these institutions. If aid to private higher education becomes a significant funding effort of the state, enrollments will be affected and the public institutions should not be constructed in ignorance of this. The master plan also will display conclusions on such matters as whether all lower-division baccalaureate programs should be concentrated in the community colleges so the senior institutions can concentrate on upper-division and graduate-level work. Moreover, it will plan the development of innovative programs such as three-year baccalaureate programs.

- Approximate the capital and annual financial requirements of the plan based upon its development at this point.

- Conduct a preliminary review with the Office of the Governor and the General Assembly to determine whether they concur with the initial representation of objectives and plans and the costs of attaining these objectives.

- Complete the development of an academic plan for public higher education that not only defines the missions of public institutions but also recognizes the roles of the independent institution.

- Formulate a nonacademic plan. This supports and to a considerable extent enables the academic plan to be effected. included here are computer facilities and services, accounting and financial organizations and systems, personnel services and organization, student affairs and activities, admission and registration processes, dormitories, and dining facilities as well as other auxiliary enterprises.

- Generate a facilities plan to represent the capital construction needs of the system.

- Develop a capital and operating financial plan. This translates the academic, nonacademic, and facilities plans into dollars and identifies the necessary sources of income and expenditures, which could require changes in admissions policies, tuitions, and fees as well as curriculums.
- Obtain executive and legislative endorsement of the 10-year plan in general terms and of the funding for the next biennium.
- Refine the plan annually.

The planning package should be presented to the Executive Office and the General Assembly for the review and endorsement, including provisional commitment of the financial support for the program as a whole. A specific allocation of funds should be sought for programs scheduled during the first two years of the plan. The representation would be modified annually to reflect changing conditions and presented to each session of the General Assembly for its continued concurrence with the updated 10-year plan. Once this has been accomplished, it will be possible to build public higher education on a more organized, economical basis. Further, the plan will provide meaningful data on which to base judgment. Thus, a basis for confidence will exist and create an atmosphere of understanding and empathy with the educational community.

Appropriate authority should be granted to the Board of Regents not only to develop the master plan for higher education but also to implement it. Implementation is controlled through allocation of dollars. Therefore, when it is necessary to depart from the level of funding prescribed by the plan, the Board of Regents would determine the manner of allocation that will enable the greatest accomplishment of the agreed-upon master plan. Similarly, as described in a following recommendation, financial support would be provided to the institutions of higher education through a system of formula budgeting designed to enable implementation of the plan for higher education.

4. Modify organization and management of consortiums providing continuing education.

The state is divided into five regions, and continuing education will ultimately be provided by member institutions of a continuing education consortium serving each of these regions. The first consortium, developed for the northern Virginia region, comprises George Mason University and Northern Virginia Community College, as well as the University of Virginia and Virginia Polytechnic Institute and State University. The latter two institutions are members of all five regions. The University of Virginia has long been a major factor in the provision of continuing education. In fiscal 1973 the University of Virginia registered 11,796 out of the total 17,288 who participated in continuing education.

The consortium in northern Virginia is staffed by an administrator whose major function is to coordinate the offerings of member institutions so that duplication can be avoided. However, the courses offered by the consortium are limited to the offerings of member institutions. The consortium itself does not attempt to assess the needs for continuing education.

Prior to the formation of the consortium, the University of Virginia had established regional centers for continuing education throughout the state, including one in northern Virginia in Fairfax. This center is staffed by approximately 30 full-time employees. Virginia Polytechnic Institute and State University also maintains an office in Reston, Virginia. All these offices are in addition to that of the administrator of the consortium. Virginia Polytechnic Institute and the University of Virginia are members of each of the consortium regions, but the other colleges and universities in the state not located in the region must obtain permission from the consortium to teach courses there.

The three major procedural and organizational problems in the present provision of continuing education are as follows:

- The provision of continuing education for a region is not planned for the region as a whole.
- The inclusion of nonresident institutions as full members of the consortium means additional costs are incurred moving teachers back and forth.
- The provision of separate offices by Virginia Polytechnic Institute and the University of Virginia duplicates existing facilities at the resident institutions.

We recommend that the members of the consortium for each of the regions be limited to those institutions resident in the region. This recommendation does not imply that a college or university outside the area should not teach in another consortium region if the members of the consortium are unable to provide the programs; however, it should be by invitation of the consortium.

The staff director of the consortium should develop a plan to guide the provision of continuing education, and this should not be limited to current offerings of member institutions.

By this modification of the organization of continuing education, a minimum of $100,000 per year would be saved in the northern area alone. The other regions have not been formally established, but proportionate savings can be anticipated in each.

5. Establish a broadened and improved system of formula budgeting.

Review of budget requests of institutions of higher education is a complex task in a state, such as Virginia, with a large number of institutions whose sizes and missions vary significantly. The situation is not unique to Virginia, however; other states have attempted to provide an equable method for budget request review by the Legislature by adopting budget formulas. Available literature indicates that use of such formulas began about 25 years ago.

Formula budgeting for institutions of higher education can be described as an application of mathematical ratios to determine dollar allowances for the various activities of such institutions, regardless of size. A simple example is the use of a ratio whereby a given number of FTE students is considered sufficient to authorize a faculty member. This can be modified to different ratios for lower-level, upper-level, and graduate-level students. The budget manual for the upcoming biennium specifies, for example, that one FTE faculty member is indicated for each 20 lower-level FTE students; the ratio is one FTE faculty member for 12 FTE students at the upper level and becomes 1 to 10 at the graduate level. Several other formulas developed by the State Division of the Budget, with some aid from the State Council of Higher Education, also have been included in the current budget instructions:

- The number of faculty positions (teaching and research) is determined by the formula briefly described above. The dollar amount budgeted for the number of positions so calculated is determined by application of the average faculty salary amounts developed by the State Division of Personnel for each of several peer groups of schools.
- Classified (nonfaculty) positions for departments other than libraries, physical plant, and organized research, are established according to various ratios, which are contingent on the level of degree granted by the institution and which provide one classified position for a given number of FTE students.
- Library staff is to be developed by a new ratio of FTE students to staff used for the first time in the current budget period. Book acquisitions are covered by the Clapp-Jordan formula.
- Summer school expenses related to instruction are budgeted at 10% of the faculty teaching and research instruction budget developed from the formulas above.

These formulas can be defined as "pure" because they are not contingent on past practice and can be applied uniformly at all institutions. Several other formulas are based on historical data, for example:

- Data processing center expenditures are calculated by dividing the actual expense for the just completed fiscal year by the actual FTE enrollment to obtain a "unit cost." This is then increased by 5% for each succeeding year and multiplied by the projected FTE regular session enrollment to obtain a budget allowance.
- Physical plant expenditures are based on the actual for the most recently completed fiscal year increased by 5% per year and the square footage of new buildings added, if any.
- Other educational and general expenses require no special justification or explanation in the budget request, if they are not more than 10% greater than the fiscal 1973 actual FTE equivalent student cost.

This group of formulas is an attempt to control the rate of increase of expenses, but is of only extremely limited usefulness in evaluation because it obviously continues any inefficiencies in historic actual expenses.

Another specific deficiency is noted in the formulas for determining the allowable number of classified positions and library staff positions. Both of these formulas provide that the FTE student base used for calculation shall include students for the regular session and for the summer session. Use of such a base is clearly excessive and therefore inappropriate because it provides for additional staff personnel contingent on the number of summer school students as if summer school were an added work load. Such is not the case, however, because summer school is a seasonally lower work load than the regular session. Classified personnel and library staff are all compensated on an annual basis and, therefore, are on duty throughout the year, so no additional expense should be made for a lower-than-normal level of activity.

The above deficiencies should be corrected; however, they also should be viewed positively as indicative of the logic that can be brought to bear through the use of formula budgeting as compared with any empirical approach. We therefore recommend that a program be implemented to expand the use of formula budgeting. Although the efforts of the state Office of the Budget are to be commended, its responsibilities require it to cover all state agencies. Accordingly, a program of this magnitude should be assigned to the proposed Board of Regents as the established body responsible for development of the most comprehensive knowledge of the needs of institutions of higher education. The program should consist of development of formulas to cover every area of expenditure susceptible to this approach. This will provide a consistent basis for review of the budget requests of each institution. It does not imply that every institution must have the same budget for the same activity; it does, however, provide a suitable starting point from which justified deviations can be made.

A study of needs and practices in Virginia will, of course, be conducted; however, we suggest that a study also be made of the formula budgeting system now in use in the state of California, which appears to be most comprehensive. The states of Florida, Texas, and Oklahoma also have been using formula budgeting for at least 10 years, and their systems are similarly deserving of review. As a guideline to further formula development, the following are recommended:

Instruction. This is the largest single category of expense and is made up of faculty salaries plus related expenses and supporting classified personnel salaries. The present formula for determining the number of faculty positions based on student-to-faculty ratios for the various divisions is similar to that used in other states. Consideration should be given to a finer breakdown for developing faculty staffing that recognizes the different requirements of course offerings, such as engineering and liberal arts. This differential approach is used in California and Texas and certain other states. In any case, the peer group average salary base should be replaced.

We recommend new formulas, based on a salary survey of institutions of higher education in other states, segregated by disciplines, such as liberal arts, engineering, physical sciences, and so on. A ratio of faculty levels also should be developed within each discipline, by academic division. The product of the salary for each faculty rank multiplied by the faculty level distribution will yield an equivalent allowance for each rank. The sum of these equivalent allowances is the salary allowance for each FTE faculty position authorized. An example of the use of this approach for lower division liberal arts is as follows:

Liberal Arts - Lower Division

| | Salary | Faculty Level Distribution | Equivalent Allowance |
|---|---|---|---|
| Professor | $16,000 | 20% | $ 3,200 |
| Associate Professor | 14,000 | 20% | 2,800 |
| Assistant Professor | 12,000 | 20% | 2,400 |
| Instructor | 10,000 | 30% | 3,000 |
| Graduate Assistant | 3,000 | 10% | 300 |
| Allowance per FTE faculty position | | | $11,700 |

Support expenses can be generated at a percentage of faculty salaries. These too should recognize the different requirements of related expense from the very low requirement of most liberal arts courses compared with the higher requirements of such courses as chemistry. Classified supporting personnel ratios also should be developed, based on such criteria as one clerk-typist to a given number of faculty and so on. Recognition also should be given, as it is now, to the effect of the use of graduate teaching assistants. The formulas thus developed should be limited to provision of a funding base for instruction only.

Sponsored or nonsponsored research (release time) costs should be separately reflected in their respective categories, as described below.

Sponsored Research Programs. This area generally is not subject to a formula approach. Expenses shown therein should include all direct expenses, that is, personnel salaries, equipment and supply expenditures, and data processing allocations, that are directly chargeable to sponsored programs received or expected to be received within the budget period. Fees charged for such programs typically include a negotiated overhead rate, which compensates the institution for the indirect overhead costs that are the support background of the institution. In any given year, therefore, the revenue from sponsored programs exceeds the direct costs thereof, so the remainder is a credit to -- in effect a reduction of -- all other educational and general expenses.

Nonsponsored Research. This category includes costs for personnel and related expenses on authorized research projects. It includes the salary portion of any faculty member who teaches less than a standard load with the remainder being considered "release time." It also includes the related expenses of their activities for supplies, equipment, and data processing if used.

Unlike the sponsored programs described above, nonsponsored research is subject to a formula approach, which can be similar to the current approach in which one FTE research faculty member is allowed for a given number of teaching faculty members. Alternatively, a percentage of instructional costs could be used with some differentiation for lower-level, upper-level, and graduate-level activities. Although existing formulas in Virginia provide for development of such positions as a budget request, they have generally not been fully funded, or funded at all, in the past. One reason for this is that departmental nonsponsored research has not been separately recorded in the accounts, but included in instruction. As a result, the base ratios now in use automatically provide for some research time. With the limiting of instructional funding to actual teaching needs, as recommended above, it is fitting to separately recognize, establish, and fund nonsponsored research activities.

Administration. Authorization for administrative positions also can be based on a ratio to FTE students, in recognition of the fact that the necessary number of administrative positions varies according to the number of students served. Any formula must reflect, however, the economics of scale in the larger institutions. For example, the base complement of executives in even the smallest school should be the president and those responsible for academic affairs, student affairs, and business affairs. Even the largest school will still have only these four basic senior officers. However, a considerable difference will be necessary in the number of support personnel required.

Therefore, an appropriate formula might establish minimum staffing for a 1,000-student institution with incremental allowances above that number. If a basic administrative complement of 50 personnel is deemed necessary for a school of 1,000 students, then 30 additional personnel might be necessary for the next 1,000 students, 20 personnel for the next 1,000 students, and so on.

Computer Centers. Expenditures for these activities totaled approximately $7-million in fiscal 1972. With this magnitude of expenditure and the likelihood of its significant increase in the years to come, formulas must be developed for funding levels for these activities. Consistent with our previous recommendation, the institutions will have interactive terminals of various degrees of sophistication with the computer network. The proper basis for expenditure allowance for computer activities also appears to be the FTE student population of the institution. For administrative needs, this base will be reasonably consistent among schools. A separate formula probably should deal with academic requirements to reflect the differences between engineering and the sciences, as compared with liberal arts and education. The personnel complements and equipment expenditures at the institutions will be relatively small, but charges from the computer network for the services provided will be significant.

Libraries. The current budget manual establishes new formulas for personnel allowances in libraries. Our review indicated, however, that these allowances would create excessive staffing in several schools. Therefore, the formulas should be reviewed and revised. The present acquisition formula is Clapp-Jordan. This compromise formula also generates ill-matched budget allowances in some instances. As discussed in detail in Section IV under "Academic Resources -- State Level," we recommend the development of new formulas that are more representative of the individual schools new and ongoing programs and that create a budget based on those needs.

Public Service and Continuing Education. These services are apart from the educational needs of the resident student body. The major difference between them is that public service provides no credit hours, whereas continuing education does. Further, public service expenditures usually exceed the income from such activities. Continuing education, on the other hand, usually generates revenues at least equal to or in excess of out-of-pocket expenses. These activities are not necessarily directly related to the size of an institution. Therefore, they should be presented by each institution on a program basis, showing all expenditures, related income, and a net amount, in the case of public service, to be financed from general funds, and, in the case of continuing education, a net revenue that becomes a contribution to other general and educational activities.

Physical Plant Expenses. In most institutions this is the second-largest area of expense. In fiscal 1972, physical plant expenditures for the 15 four-year colleges and universities were more than $20-million. Several major categories within this expense group should be subject to an appropriate formula.

The category of repairs and maintenance comprises personnel and material costs for minor repairs and painting on all parts of the building and its equipment, including furniture. Renovations and remodeling in amounts less than $5,000 are expected to be included in maintenance. Projects in excess of this amount are capital items, as further discussed in this section. The formula base should be a cost allowance per square foot occupied. This should vary from school to school, depending on the age of the building and its type of construction.

The category of custodial service comprises the costs of personnel and materials necessary to keep the buildings clean. This expense also should be based on a cost per square foot occupied and should be very similar for all schools. A properly developed formula should be based on standards specifying the frequency and quality of cleaning to be done.

Maintenance of grounds comprises expenditures for personnel and materials needed to maintain lawns, trees, shrubs, walks, streets, parking areas, fences, and utility lines and tunnels. A formula for this expenditure could be based on a cost per acre served.

Utilities include heat, light, power, water, sanitary sewers, and natural gas. This major expenditure also could be based on a formula allowance per square foot occupied. If the institution has a power plant, the formula allowance would include operation of that facility. Use of this standard formula should provide useful data on actual cost per square foot experience for institutions with power plants as compared to those without.

Supervision of these activities should be based on a formula that is not directly variable with the size of the physical plant. For example, a base staff might be a director, an assistant director, and a clerk-typist. An additional assistant director might be authorized at the 2-million square foot level and another assistant director plus an engineer at the 4-million square foot level, and so on.

Security comprises expenses for law enforcement, traffic control, security of residents and property, and an emergency ambulance service. This area too should be calculated on a base complement plus increments. The base complement might be a superintendent and six other personnel to provide seven-day-per-week, 24-hour-a-day service. Beyond that, many variables can be built into the formulas, such as whether the school is in an urban setting (which typically requires additional security), the presence or lack of dormitories, and some consideration for the number and square footage of buildings controlled.

All physical plant formulas are expected to generate gross funding allowances for the entire facility. The budget request should show the gross allowance and also the amount of physical plant expense that will be allocated to auxiliary enterprises. The net remaining should be financed from general funds.

Auxiliary Enterprises. These operations should be scheduled separately, showing the expected revenue and its related expenses. These expenses comprise the expenses for personnel and material directly associated with the auxiliary operation plus the allocated amounts for general administrative, computer, and maintenance services. In most years (excluding those in which major renovation and remodeling are planned), auxiliary enterprise revenues will exceed the total expenses; the difference is added to auxiliary enterprise reserves. This schedule of auxiliary enterprise budgets is obviously necessary to provide a complete representation of all institution operations and an opportunity for institution- and state-level administrative review of projected operations for this large and important segment of activities.

The Board of Regents should review all budget requests for compliance with the standard formula specified and approve them as being in concert with established state-wide planning. Regardless of the amount of initial research that goes into a series of formulas, a certain number will require modification, either because some significant factor has not been given adequate recognition or because the basic circumstances have changed.

Whatever formulas are developed and whatever budgets are approved as modified, they will still contain a major potential weakness in that most data will be related to projected student enrollment. It will be most unusual if actual student enrollment agrees with the projections. Therefore, some provision should be made for modifying approved budgets to recognize this situation. The Board of Regents should be designated the monitoring agency to determine when enrollment, or any other base factor, is sufficiently different from the projection that a supplementary budget revision request should be prepared by an individual institution. Such supplementary requests should be reviewed by the Board of Regents and submitted with their recommendations to the appropriate legislative body for action.

Further, formulas should not be allowed to become so complex or detailed that they obscure their primary purpose, which is to establish reasonable guidelines for comparatively broad segments of activity within each institution. Similarly, approved budgets based on the formulas are not to be used as detail line-item control for actual expenditures. Each institution will have broad latitude for expending its allotted funds within these categories and can exercise discretion in transferring expenditures between line-item expenses as long as the prescribed mission is being accomplished.

6. Establish responsibility for Chart of Accounts.

In a letter dated June 12, 1972, the Governor directed that the Chart of Accounts developed by the State Council of Higher Education be used by all state-controlled institutions of higher education. He further designated that the council would be the agency to review and affect any further refinements in the Chart of Accounts that may become necessary after consultation with its Finance Advisory Committee, the State Division of the Budget, the State Auditor of Public Accounts, and the State Department of Accounts.

We recommend that the general authority contained in that directive be transferred to the proposed Board of Regents. We further recommend that, because of the unique requirements of the institutions of higher education, the Board of Regents should have full authority to modify the Chart of Accounts as necessary to meet the needs of the several institutions without acquiescence from any other state agency, excepting those noted in the Governor's original letter, and only in those specific interfaces with the state agencies.

Further, the Board of Regents should acknowledge the nationwide accounting standards that have been developed and published in the College and University Business Administration Manual, often referred to as the

CUBA Manual. These standards are the considered recommendations of a large number of financial administrators from institutions of higher education and provide useful comparisons between financial reporting for the Commonwealth of Virginia and other institutions in other states.

However, the accounting methods in the CUBA Manual are intended to provide a basic system for supplying fiduciary information. Although that activity obviously is necessary, it will not supply the full planning and management control needs of the universities without identification and accommodation of those needs. Therefore, we further recommend that the chief financial officer of the Board of Regents be charged with the responsibility of developing means to fulfill these requirements, building on the data developed in the Chart of Accounts.

7. Develop an accounting manual and a system of accounting and reporting to the Board of Regents.

The existing Chart of Accounts issued by the State Council of Higher Education is a great forward step in the direction of providing for uniform financial reporting for all institutions of higher education. Several deficiencies and ambiguities should be corrected, however, so that categorization and reporting of all financial data are consistent among all institutions. In addition, a reasonable number of financial reports must be supplied to the Board of Regents so that it can properly review the progress of each institution on a regular basis.

Responsibility for implementation of this program should be assigned to the chief financial officer of the Board of Regents, and we recommend that specific action be taken on the following: To correctly reflect the profit or loss of auxiliary enterprises, they must be properly charged for services received from other departments, specifically, the physical plant operation and administrative services. Our review of the individual institutions indicated that all make some effort to develop a basis for charging a portion of physical plant expenses to the individual benefiting auxiliary enterprises, but the methods are not consistent and none are sufficiently accurate. At one institution no effort at all is made to determine a proper charge. Rather, auxiliary enterprises are charged for the entire difference between their direct revenues and direct expenses. This improper practice results in such distortion that the auxiliaries financial reports are almost meaningless and management is impossible.

Further, only two institutions make any charge to auxiliary enterprises for administrative services, and these are much too low. This means that general funds are used to subsidize auxiliary operations. In fiscal 1972, this totaled $2-million throughout the system. A significant portion of the administrative services of the entire accounting activity and some portion of the computer centers are used exclusively for auxiliary enterprises. Accordingly, to correctly reflect the results of auxiliary operation, such charges must be made. The State Council of Higher Education Chart of Accounts also specifically states that charges for administrative services will be made, even though, as we have observed, this provision is seldom followed.

Auxiliary enterprises must be more clearly defined for consistent treatment at all institutions. There appears to be little difficulty in identifying food service, dormitories, laundry, student health service, and stores and shops as auxiliaries. Certain other areas are much less clear, such as intercollegiate athletics, student union, student activities, and revenue from vending machines. Some schools do not appropriately identify revenues and expenditures associated with intercollegiate athletics. Another problem occurs at some institutions where food service and/or bookstores are under contract to an outside company. These institutions sometimes report only the net commission or other revenue received from these operations. This is entirely inadequate, because knowledgeable evaluation of these operations necessitates broad-form reporting, which must include the total revenues and the total expenditures for a net amount received by the institutions.

Problems also exist in the reporting of total revenues for the student union and student activities. These certainly qualify as auxiliaries because they are financed by student fees, not general fund appropriations. Apparently, there have been some exceptions to this rule in the basic financing for student union buildings. Where bond issues are involved, there are direct student fee charges to retire these bonds, not general fund appropriations, clearly making these auxiliary enterprise activities. Therefore, a study should be made of this area to ensure consistent treatment by all schools.

The only regular financial report now received by the State Council of Higher Education is designated as the E-1 report, "Current Operating Income and Expenditures." Our review of these reports has indicated that much confusion exists on their intended content. Significant amounts of revenue and related expenditures are commonly excluded. The purpose of a report such as this should be to reflect the total financial picture of the institution. Examples of major omissions are the separate corporations at VPI for intercollegiate athletics, the bookstore, and vending machines, which have annual revenues in excess of $3-million. Similarly, at Old Dominion University, there is a separate corporation for the management of research funds, which total almost $1-million per year. None of these activities were reported on the E-1 report. Further, our review and comparison of the E-1 report with the annual financial reports prepared internally showed some very large differences between the two that have never been reconciled. Apparently, the internal financial reports were more nearly correct. Therefore, the E-1 reports used to prepare the State Council of Higher Education annual report, entitled "Financing Virginia's Colleges," have resulted in significant errors in many areas.

A twofold program of correction of this deficiency is recommended: the State Auditor of Public Accounts should be instructed to compare the

E-1 report with the internal report for consistency, and copies of the internal report of each institution should be transmitted to the Board of Regents for summary review at that level.

No clear definition has been applied to the determination of which items should be on capital requests and which are part of annual operating budgets. For example, replacement of existing equipment, either desks or laboratory equipment, appears to be regularly included in the annual operating budget. On the other hand, when a new building is being requested, it includes expenditures for that same type of equipment in that category. In addition, schools that have managed to build large physical plant departments can utilize their regular operating budgets for substantial renovations amounting to over $50,000 per project. Obviously, schools that have not been able to build up such large physical plant departments in the past prepare requests for such remodeling activities as capital requests.

This structure fails to recognize the basic nature of capital expenditures, which should be defined as current expenditures carrying a significant commitment for future expense. An obvious example is a new building: When completed, it will require maintenance, custodial service, and repairs. Less obvious, but equally significant, are expenditures for remodeling and renovation. Typically, these alter the use of the space for other purposes. For example, at the College of William and Mary, some dormitory space was converted to office use, and at other schools some classroom space was converted to office space. In the latter instance, this could easily lead to requests for additional classroom space to replace that lost. Obviously, this practice must be closely controlled to prevent abuse.

Equipment purchases have similar long-range connotations. A basic example is the purchase of a new desk. Although this is normally a rather small expenditure, the implication is that an employee will be sitting at that desk and his or her salary will be a permanent ongoing significant cost. A similar case can be made for the purchase of filing cabinets, which will become filled and will require personnel to maintain the material stored.

We therefore recommend that guidelines be prepared to define capital expenditures and that all such expenditures be required to be submitted on capital request forms, not as part of regular operating funds. Two criteria should be applied to identify a capital project: First should be the life of the asset acquired; as a reasonable rule, any item acquired with a useful life expectancy of less than three years should be considered a current expense and not capital. Second, in order to avoid expenditure of substantial analytical and approval time for minor items, any item with a purchase price of less than $500 should be considered a regular annual operating expense. In addition, any repair, remodeling, or renovation project that does not change the amount of space or its utilization and costs less than $5,000 also should be considered part of regular operating expenses. Any items that do not fall within these definitions should be requested on capital expenditure forms.

In the absence of appropriate formulas for determining budget allowances for physical plant departments, the total implementation of this recommendation may necessarily be delayed until such formulas are developed. Nonetheless, in the interim capital requests should be prepared as specified above, but included in current expenditures for institutions that would have so handled them at this time. Similarly, equipment requests also can be included in those areas where they are now included, but proper justification should be prepared. This technique will begin to build a data base that will be helpful in development of formula controls and will highlight all such expenditures for the attention they deserve.

Present financial reporting to the State Council of Higher Education essentially is limited to the E-1 annual current operating income and expenditure statement. As discussed above, at several institutions these reports omit significant operations, such as the subsidiary corporations at Virginia Polytechnic Institute and State University and Old Dominion University. At several institutions -- Old Dominion University, the College of William and Mary, and Madison College -- these reports are significantly different from the internal annual reports. Therefore, the guidelines for preparation of this report must be redefined to ensure full inclusion, and a requirement must be added that the state Auditor of Public Accounts review the documents for consistency. Copies of the institutions' annual reports should be provided to the Board of Regents for comparison also. In this way, the consolidated and consolidating financial reports issued by the Board of Regents will reflect the total and correct financial picture of the system.

In addition, to be currently informed, the Board of Regents should be provided with an information copy of the quarterly report of each institution, reflecting actual financial results compared with budget, and presenting commentary on significant deviations and action planned to effect correction.

8. Develop a more equitable basis for establishment of student tuition fees.

At present, the Board of Visitors of each four-year college and university is vested with the authority to establish the level of tuition fee that will be charged. This area, however, should be of critical interest at the state level for at least two reasons: An accepted policy of state-supported education is to provide that education at the most reasonable cost to the student. Secondly, to the extent that any institution charges significantly less or more than another, this action directly affects the amount of state support required.

The fees charged at the 15 four-year colleges and universities in the Commonwealth of Virginia vary widely, as shown in the table on the following page. The amount designated as "tuition" for all students

## COMMONWEALTH OF VIRGINIA 4 YEAR COLLEGES AND UNIVERSITIES

## TUITION AND RESIDENCE FEES

### Fall 1972

| | Tuition | | | Residence | | | Tuition Room and Board | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Out of State | |
| | Net | Fees | Gross | Room | Board | Total | In-state | Add | Total |
| Christopher Newport College | 540 | 60 | 600 | – | – | – | – | 300 | – |
| Clinch Valley College | 370 | 30 | 400 | – | – | – | – | 100 | – |
| George Mason University | 580 | 60 | 640 | – | – | – | – | 720 | – |
| Longwood College | 500 | 90 | 590 | 580 | 475 | 1,055 | 1,645 | 350 | 1,995 |
| Madison College | 480 | 167 | 647 | 508 | 415 | 923 | 1,570 | 425 | 1,995 |
| Mary Washington College | 735 | 27 | 762 | 468 | 420 | 888 | 1,650 | 755 | 2,405 |
| Norfolk State College | 380 | 80 | 460 | 465 | 495 | 960 | 1,420 | 240 | 1,660 |
| Old Dominion College | 415 | 55 | 470 | 786 | 464 | 1,250 | 1,720 | 400 | 2,120 |
| Radford College | 315 | 99 | 414 | 765 | 492 | 1,257 | 1,671 | 399 | 2,070 |
| University of Virginia | [1]440 | 182 | 622 | 385 | 420 | 805 | 1,427 | 750 | 2,177 |
| Virginia Commonwealth University | [1]510 | 80 | 590 | 490 | 495 | 985 | 1,575 | 540 | 2,115 |
| Virginia Military Institute | 400 | 295 | 695 | 270 | 600 | 870 | 1,565 | 1,035 | 2,600 |
| Virginia Polytechnic Institute and State University | 540 | 87 | 627 | 306 | 540 | 846 | 1,473 | 600 | 2,073 |
| Virginia State College | 460 | 230 | 690 | 286 | 437 | 723 | 1,413 | 260 | 1,673 |
| The College of William and Mary | 412 | 294 | 706 | 496 | 560 | 1,056 | 1,762 | 1,070 | 2,832 |
| Average with Residence | 465 | 141 | 606 | 484 | 484 | 968 | 1,574 | 569 | 2,143 |
| Average all Institutions | 472 | 122 | 594 | – | – | – | – | 530 | – |

[1] *Excluding Medical Schools, which are about $1,000.*

includes various amounts of fees, ranging from a $30 student activity fee at Clinch Valley to $295 in fees at Virginia Military Institute for activities, student health, debt retirement, and other items. Therefore, although the gross tuition charge at Virginia Military Institute is $695, compared with only $400 at Clinch Valley College, the actual net amount used for tuition support is $400 at Virginia Military Institute and $370 at Clinch Valley College.

As for extremes in the actual tuition, the lowest tuition is $315 at Radford College, and the highest tuition is $735 at Mary Washington College. Such a diversity of fees between two otherwise comparable institutions appears unsupportable, especially because Radford College offers master's level work and Mary Washington College does not. This disparity shows up clearly in state general fund support; for fiscal 1972, state support to Mary Washington College totaled $794 per FTE student, compared with $925 to Radford College. It is further evidenced at Radford College where they requested a special additional appropriation, which was denied, for the establishment of a counseling service. Mary Washington College already has a counseling service, obviously easily financed from their higher tuition.

Review of residence fees shows a similarly wide variance. The lowest annual fee for room and board is $723 at Virginia State College, and the highest is $1,257 at Radford College. The charge at Radford College reflects an effort by the Board of Visitors to recover an exceptionally high bonded indebtedness load due to the excessive dormitory building program. This problem, however, is directly related to the unusually low tuition at this school, because the Board of Visitors of Radford College did not want its total residence fees to be higher than those at Longwood College and Mary Washington College, which are considered comparable and therefore competing schools.

Evidence of an increasing imbalance between tuition and auxiliary fees is seen in the increases put into effect for the fall of 1973. Most schools increased their auxiliary fees, but only Longwood College and Mary Washington College increased their tuition. Inasmuch as tuition fees are a reciprocal of the fees deemed necessary to support auxiliary enterprises, the legislature must have an overall criteria for the portion of the educational and general expense budget they will fund, with the remainder to be financed from student tuition fees, and other sources such as endowment income. The determination of tuition fees then continues to be the responsibility of each Board of Visitors. If any institution's existing tuition fees are insufficient to support the portion of their budget not funded by the legislature, then they must decide whether to increase tuition, reduce expenditures, or adopt some combination of these two alternatives.

9. Increase out-of-state fees.

The additional increment in fees charged to out-of-state residents at the four-year colleges and universities ranges from a low of $100 at

Clinch Valley College to a high of $1,070 at the College of William and Mary. The weighted average for the public system, based on the fall 1972 FTE enrollment and the fee structure at that time, is $645 per year. Apparently, only the University of Virginia, Virginia Commonwealth University, Virginia State College, and the College of William and Mary plan any increase in their out-of-state fees for the fall of 1973.

In the State Council of Higher Education report, entitled "Financing Virginia's Colleges," for fiscal 1972, the average educational and general expenditures per FTE are $2,100 at the four-year colleges and universities. This amount is, of course, higher for the ensuing years, but the data are not yet available. However, with an average net tuition of approximately $475, an additional $1,625 per FTE out-of-state student is necessary to cover expenditures. Therefore, the weighted average charge to out-of-state students of about $645 is about $1,000 less than that which would be needed to fully cover their cost.

If that differential is deemed too high to be charged, the question must be resolved as to what an equitable level would be. As one point of reference, we have reviewed the tuition, fees, room and board charges and out-of-state charges that will be made in the fall of 1973 by 64 other state four-year colleges and universities across the country. A summary appears on the following page, with individual listings for six eastern and southeastern colleges.

|  | Tuition, fees, room and board | Out-of-State |  |
|---|---|---|---|
|  |  | Additional | Total |
| Pennsylvania State University | $1,995 | $1,131 | $3,126 |
| University of North Carolina | 1,452 | 1,575 | 3,027 |
| University of Florida | 1,815 | 1,050 | 2,865 |
| University of Maryland | 1,793 | 1,000 | 2,793 |
| Georgia State College | 1,657 | 900 | 2,557 |
| University of South Carolina | 1,550 | 638 | 2,188 |
| Average of 64 State Schools | 1,651 | 914 | 2,565 |
| Virginia | 1,574 | 645 | 2,219 |

We recommend that the Board of Regents study this problem and recommend a revised fee structure. Considering the wide differences among the colleges and universities in Virginia, it may, indeed, be valid to have different out-of-state charges for different schools, but certainly not ranging from $100 to more than $1,000. Although there are many approaches to an acceptable solution, it does seem reasonable that out-of-state fees charged by Virginia colleges should equal the average of other state institutions around the country. If that average had been charged to the fall 1972 FTE out-of-state enrollment, additional revenues available to the affected schools would have amounted to $4,425,000. Obviously, potential revenue of this magnitude must be given prompt attention.

10. Consolidate computer equipment, staffs, and services at the state level to serve the instructional, research, and administrative needs of all public institutions of higher education.

The application of computers to the academic, research, and administrative needs of the colleges and universities in the public system of higher education in Virginia has been slow to develop. In efforts to rectify this situation, several institutions are working to develop computer centers and staffs capable of designing the necessary systems and programs. These efforts are essentially independent of each other, so each institution must pay the expense of charting its own way, despite the common needs of all institutions.

At the state level, the various studies that have been conducted over the last several years culminated in the finding that a broader approach was required and in the recommendation that a regional network of computers be established. A 1969 study by the State Council of Higher Education recommended this, and another study two years later said essentially the same thing, except it also recommended that the network be administered by the State Automated Data Processing (ADP) Department. Still later, the ADP Department planned the development of a consolidated system that would serve all state agencies and that would include the public system of higher education. Years have passed, regional centers were started but not completed at the University of Virginia, Virginia Polytechnic Institute and State University, and the College of William and Mary. The present head of the ADP Department has prepared an excellent presentation of a well considered proposal for the establishment of a network serving the public system of higher education and administered by the ADP Department.

All through this period of uncertainty at the state level, something had to be done at the institutional level. It was. However, it was not coordinated, and the systems and equipment developed at the two largest centers, Virginia Polytechnic Institute and State University and the University of Virginia, are not compatible with one another. At the same time, the State Board of Community Colleges, as a governing board, must have a well-developed information system to enable comprehensive management of the large number of two-year institutions for which it is responsible. Since there is no effective network serving higher education, it seeks to develop its own.

Obsolete unit record equipment is still being used at several of the smaller, four-year colleges. The table on the following page lists the computer equipment, staffs, and operating budgets at the various four-year institutions. During fiscal 1972, hardware and personnel expenditures totaled approximately $7. 3-million. This figure is probably low by several hundred thousand dollars because of the moratorium on the provision of equipment to several of the smaller institutions while state-level plans were being developed. Further, if the pattern at other institutions of higher education across the country is followed, these expenditures can be expected to amost double in the next five years. Thus, an expenditure of $14-million in 1978 would not

## COMPUTER RESOURCES - FOUR YEAR COLLEGES AND UNIVERSITIES

| Institution | Equipment Rental ($-thousands) | Operating Expenditures ($-thousands) | Staff | Central Processor | Other |
|---|---|---|---|---|---|
| Christopher Newport | 30 | 67 | 5 | | Terminal |
| Clinch Valley | - | - | - | | |
| George Mason | - | 70 | - | | Nova 1200 terminal |
| Longwood | 15 | 45 | 6 | | Obsolete unit record equipment<br>No terminal |
| Madison | 60 | 166 | 14 | IBM 1130 | Nova 1200 terminal |
| Mary Washington | 12 | 36 | 2 | | Obsolete unit record equipment<br>No terminal |
| Norfolk State | 60 | 147 | 8 | IBM 1130 | Used as terminal |
| Old Dominion | 175 | 419 | 27 | Spectra 7045<br>IBM 1130 | |
| Radford | 15 | 45 | 3 | | Obsolete unit record equipment<br>No terminal |
| University of Virginia | 700 | 1,750 | 99 | IBM 370/145<br>CDC 6400<br>Burroughs 2500 | Designated Regional Center |
| Virginia Commonwealth | 500 | 1,400 | 57 | IBM 370/145<br>Honeywell 200<br>IBM 1800 | |
| Virginia Military | - | 135 | 8 | Burroughs 5500<br>IBM 1620 | |
| Virginia Polytechnic | 937 | 1,900 | 90 | IBM 370/155<br>IBM 370/155 | Designated Regional Center |
| Virginia State | 84 | 121 | 8 | IBM 360/30 | |
| William and Mary | 480 | 818 | 36 | IBM 360/50 | Designated Regional Center |
| Total | 3,068 | 7,119 | 363 | | |

be unusual. As greater and greater application of computers is made to academic and instructional needs, this rate of growth will increase dramatically. Though not included in the tabulation, the needs of the community colleges will make this an even greater investment.

Computer facilities have become a very important ingredient of both the educational and administrative functions of higher education. However, they are extremely costly and require highly trained support staffs and expert management. In reviewing the institutions, we found very competent staffs at some institutions receiving good direction; competent staffs with little direction and not achieving maximum benefits at other institutions; and very poor staffs with equally poor direction at still other institutions.

The quality of the systems applications that have developed at the institutions has not been impressive. Despite many common needs for similar systems, each institution has independently developed its own programs, so their quality varies widely. In the administrative area, each institution requires systems for admissions, registration, grade reporting, and class scheduling; academic record maintenance and student-loan record keeping; budgeting, accounting records, and inventory control systems; library acquisition, cataloging, and circulation control; and space utilization and management information systems. No institution has a broadly based management information system under development. The State Council of Higher Education is deficient in this area also and cannot possibly function without it and still serve the needs that must be met at the state level.

The proliferation of computer centers and staffs at each institution will not achieve maximum benefits for higher education. For this reason, we recommend that computer equipment and staffs be consolidated within a single organization at the state level responsible for the provision of a state-wide computer network, including programming and systems services. It would own or lease all computer and peripheral equipment used for computer services of any kind in all the public institutions of higher education in Virginia, including the community colleges except those computers serving dedicated purposes. Although the impetus to its formation would be to serve public higher education, it could equally provide services to private higher education for a fee.

The state-level organization would charge for its services by using a revolving fund approach. Each institution would continue to be funded as at present and would purchase services according to its needs. The network would:

- Function as a computer utility and provide a very powerful time-sharing and batch-processing computer capability to serve the instructional, research, and administrative needs of the public institutions of higher education.

- Develop computer programs and systems to serve the common administrative needs of public higher education. For the most part, however, systems service for instructional and research needs would remain a part of the institutional responsibility and staffing.

- Develop a data base to serve the management information needs of both the institutions and the Board of Regents. Also, it would develop computer programs to update this data base and produce standard management reports.
- With the participation of each college and university, develop and maintain a comprehensive systems, computing, and data processing plan for public higher education. It would review and approve all proposed institutional activities in these areas.

There are several means by which management could be applied to the state-level agency. It could be a public corporation whose board comprises institutional heads. An alternative would be to place it in the ADP Department. Another alternative would be to place it under the proposed Board of Regents. We recommend the last alternative for greater assurance of continuity of management. In addition, this would be consistent with a previous recommendation that proposes functional authority for provision of common administrative systems as a responsibility of the proposed Board of Regents. However, there is latitude here, and the benefits of consolidation are not totally dependent upon reporting relationships.

Benefits of a computer network would include equal provision of computer power to all institutions at a much higher level than any one of them could ever afford and, at the same time, a minimum saving of one-third of present costs, or almost $2.5-million per year.

Under the recommended arrangement, the network complex would be headed by a director reporting to the Vice Chancellor of Finance and Administration of the proposed Board of Regents. At this point, it would be impossible to describe the computer configuration that would most advantageously serve the needs of Virginia higher education. An advisory board comprising senior administrators of the public institutions should be established to provide policy guidance and assist in the development of a five-year plan encompassing the needs of all the institutions and the consequent services that must be provided by the network complex.

### 11. Centralize systems development.

At present, 10 of the 15 four-year colleges and universities have analysts and programming personnel assigned to the development of administrative systems. The employees thus involved total about 80, with an annual budget of about $850,000. Of the five institutions that do not have this activity, three are the small colleges -- Longwood College, Mary Washington College, and Radford College -- and the other two are Clinch Valley College, the smallest institution, and George Mason University, which is just emerging as a larger institution.

In reviewing the institutions, we found that many are independently developing what should be standardized systems for use by all institutions, for example:

- Monthly financial reports
- Student data, including admissions, registration, and grade records
- Personnel data files
- Accounts payable control and accounting distribution
- Library acquisitions, cataloging and circulation
- Payrolls.

One institution plans to double its programmer-analyst staff to develop 19 administrative programs, all of which now exist in some form at the larger schools. The University of Virginia has developed such an advanced system for payroll calculation that the state offices accept the university's tapes, rather than the cumbersome and inefficient manual reports required of all other institutions.

In contrast with this position at the University of Virginia, however, another school's attempt has resulted in frequent errors, requiring the continuing efforts of its entire analyst-programmer staff plus a large group of accountants for manual assistance to operate it. In addition, this situation has required retention of outside consultants for further assistance. Many schools have some kind of computer summarization of payroll data, but with few exceptions the basic calculations of gross pay and deductions are still entirely manual. Certain systems for scheduling, allocation, and control of its computer have been developed at Virginia Polytechnic Institute and State University and are very good, but cannot be adopted at other schools because they require a greater amount of computer core memory than the other schools have available.

In summary, the situation evidences wasteful proliferation of staff; several different groups are attempting to solve the same or similar problems, often with indifferent results. We therefore recommend that all systems analysts and programmer personnel be consolidated into a single group reporting directly to the Board of Regents. This approach should provide unified direction, optimum results, and substantially reduced personnel requirements.

Centralized direction of systems analysis and programming personnel will provide a framework for efficient development of computerized systems. We specifically recommend the following areas for development because they represent activities for which substantial quantities of data must be manipulated:

- General ledger accounting, based on the established Chart of Accounts, including accounts receivable and accounts payable systems and a provision for encumbrances.
- All detail budget data, including monthly and other periodic reporting against actual results.
- All payrolls.
- Personnel data files for faculty and classified personnel.
- Student information data, including admissions, registration, class roll development, and grade reporting.
- Faculty data, including assigned work load and credit-hour production information.

- Space utilization data, which should ultimately be an automatic output from computerized registration and class assignment systems.
- Library data, including automated systems for acquisition, cataloging, and circulation.
- Physical plant data, including preventive maintenance scheduling, individual building maintenance and repair costs, and personal property (portable asset) control.
- Alumni data files.

Further, we recommend that instructions be issued as soon as possible to discontinue the development of new administrative systems and any recruiting efforts for systems analysis and programming personnel until the new centralized group is formed.

Elimination of all overlapping efforts should be expected to reduce analyst-programmer staffing needs by at least two-thirds of the present complement. We recommend, however, that efforts be broadened to allow more rapid development of systems. Further, consideration must be given to some standard program modification to accommodate special needs of individual institutions. Accordingly, a conservative reduction of 40% of present expenditures may be projected, for an annual saving of $350,000.

12. Implement common computerized systems applicable to the administration of all institutions.

Implementation of the previous recommendation will establish an economically efficient, centrally directed systems analysis and programming staff whose computerized system activities will be mandated by policy. To ensure the greatest benefit to all, as a matter of policy, the computerized systems developed should be applicable to and used by every institution.

Although every institution performs, or should perform, all the functions listed in the previous recommendation, there are some individual differences in their policies in some areas, admissions for example, and in their relative sizes. We do not intend that development of systems for all institutions eliminate legitimate policy differences. Existence of such differences, however, must not be permitted to cause development of individual systems for individual schools; this would only lead to the excessively costly proliferation that exists today. Instead, the approach to systems development must accept such differences and accommodate them in a standard system.

Therefore, the goals to be attained through systems development must guide the planning of that development. A major goal is to provide timely and accurate data to the management of the institution in all areas of administration. The costs of obtaining and providing such information are substantial. Therefore, priorities should be assigned to the many systems development opportunities in accordance with the efficiency savings available. As discussed in our detailed reports on the individual institutions, many, if not most, of the activities specified in the previous recommendation are still being performed manually or with older mechanical equipment. Implementation of modern computerized systems for the accomplishment of this work will eliminate an average of at least ten classified positions at each institution. This conservative goal, which can be exceeded with good planning, will generate a minimum saving of $1-million per year.

13. Develop a comprehensive information system.

Development of the computerized systems recommended will generate a very broad data base of detailed information about institutions; many of these data were never before captured or recorded in any orderly manner. A major consideration in systems design, therefore, is the fact that many of the data are interrelated. For example, admission and registration programs will build a basic student data file and also will generate student billing information used by accounts receivable.

Although these data are generated to enable day-to-day accomplishment of necessary record-keeping tasks, use of the data is not limited to this purpose. When assembled in an orderly and comprehensive manner, which it necessarily will be, the information becomes available for planning on a scale not previously possible. In addition, it is vital to the knowledgeable functioning of the proposed Board of Regents.

Our review showed that many of the reports issued by the various institutions in finance, registration, and physical facilities were inaccurate and incomplete because of the present inadequate and multiple sources used for their preparation. An inaccurate report based on inaccurate data generates an inaccurate plan. Therefore, an important design criteria in the development of the computerized systems is access to the information so that timely and accurate summaries can be assembled as bases for projections. With this reliability, the development and modification of budgeting formulas will be facilitated, and as a result, funding requests will be more appropriately based and less subject to arbitrary adjustment. We recommend that development of a comprehensive management information system be made a high-priority action of the Board of Regents.

14. Develop a plan for the installation of a planning, programming, budgeting system.

In the years following World War II, the major problem facing institutions of higher education nationally, as well as in Virginia, was to provide adequate personnel and facilities to accommodate the tremendous growth in the number of students demanding higher education. During that period, any inept planning quickly disappeared in revised plans for further growth. Now, however, the period of explosive growth is ended, and although there will be some additional growth through 1980 or 1982, most projections, including those for Virginia, show a reduction in enrollment after that time, reflecting the reduced birth rates of the past several years. In addition, other social demands are competing for the tax dollar, including welfare, housing, and medical services. On the other hand, federal, state, and local taxes are all at record, or near-record, levels, so revenues are not susceptible to significant increases. Therefore, increasing demands are being made for a rational approach to funding higher education that is understandable to legislators and the public.

The existing line-item budget approach is generally acknowledged to be ill-suited to this purpose. The adoption of formula budgets for institutional funding is more understandable than historic methods, but is still an imperfect measure.

A new approach, which has been developed over the last several years, is called the planning, programming, budgeting system (or simply PPBS). Succinctly stated, PPBS comprises:

- Planning, which is the identification of the long-range objectives of the institution and a cost-benefit analysis of the courses of action available to achieve those objectives.
- Programming, which is the selection of the specific courses of action to be taken to implement planning decisions.
- Budgeting, which is the translation of the planning and programming decisions into specific financial projections for the short term, usually two years.

More specifically, under PPBS, the old but still commonly used line-item expense budget for each department is not the final budget, but rather only an input into a matrix that develops the cost of total degree programs.

Inasmuch as degrees granted is a commonly recognized output of institutions of higher education, this way of looking at their financial requirements is more understandable. For example, the English department does not produce an English degree. Students receiving such degrees also have taken courses in several other departments, and students receiving degrees in other disciplines have taken courses in the English department. PPBS then is a system for allocating the outputs of the various regular departments as they apply to the degree programs that may be offered.

Development of these program costs requires multiple inputs -- enrollment projections by number of students by type of program, number of courses, level of courses, student-to-faculty ratios, faculty work load ratios, faculty salaries, faculty rank distribution, and expenses related to teaching activities. Ideally, this latter group comprises all other activities of the institution, including the library, physical plant maintenance, and administration. Even this somewhat oversimplified presentation makes it clear that we are dealing with a highly complex matrix of data to be manipulated. Obviously, it would be impractical, if not almost impossible, to implement such a system without the availability of modern high-speed, large-capacity computers. Even their availability, however, is not the complete answer because the input data require a very broad and detailed data base, as discussed in the previous recommendation describing the need for a comprehensive management information system.

PPBS is generally considered to have been developed in the federal Department of Defense and has since spread to many other types of organizational entities. Much effort has been devoted to its development for higher education in the past several years, particularly by the Western Interstate Commission for Higher Education (WICHE). Many states are encouraging its development for budgetary purposes; California has made it mandatory. Our interviews with administrators of the Virginia institutions of higher education indicated that most directors of the large data-processing facilities are aware of this development, but few other administrators appear to have learned much about it. We recommend that the administrative services section of the Board of Regents be specifically assigned the task of becoming knowledgeable on the most recent developments in this area and developing a plan that will provide for implementation of PPBS in Virginia. Such a plan is not limited to mere mechanics. A training program for all administrators must be developed as soon as possible so that they are informed of the many advantages that will accrue to their institutions through the use of this sytem, both as an acceptable basis for funding and as a sophisticated tool for the development of long-range plans.

Full development of PPBS requires several years to complete. We believe the system of formula budgeting and long-range planning that we have recommended will provide the stepwise progression necessary to achieve PPBS as an ultimate goal.

15. Improve the quality and methods of institutional management by effective training programs administered through the Board of Regents.

In our review of the public system of higher education in Virginia, we found personnel at all levels of institutional management and operation whose performance could be considerably enhanced by participation in effective training programs. In general, many procedures of institutional management, from the Board of Visitors to building custodians, evidenced considerable weakness.

Several institutions have begun to develop management-training capabilities, but these are directed primarily toward the first-level supervisor. Furthermore, several institutions are attempting to develop improved systems of management that could be used throughout the system of higher education. Although improved procedures of management are needed by each institution, their independent development is costly and results in inherent dissimilarities between systems serving common functions that will complicate desirable future programs of resource sharing.

Therefore, establishment of the Board of Regents provides an excellent opportunity for the central administration and development of training programs that should have a profound impact on the management capabilities of the entire system. These programs would be administered by a Director of Training Services reporting to the Vice Chancellor of Planning.

Although the training services organization would be the vehicle for delivering this valuable training, much of the expertise required to develop and actually teach the programs can be found among the faculty and staff of the individual institutions. Thus, the director would coordinate and organize the available manpower resources of the institutions into common training programs administered centrally but conducted both centrally and on campus, as required.

We observed the greatest need for programs or training to improve methods of management and management proficiency in the following areas:

- Board of Visitors. Comprehensive orientation programs for new board members are vitally needed to acquaint them with effective methods of institutional management. Specifically, a manual should be developed to provide a thorough understanding of the workings and financial implications of institutional operations.
- Program-planning-budgeting systems. The effective and consistent implementation of recommendations for more accurate and comprehensive systems of budgeting and planning can best be accomplished by providing institutional managers centrally administered training in the application of PPBS.

- Space utilization management and control. Training services should be provided in the analysis of student station utilization reports that can be used to improve space utilization performance. Better methods of scheduling classes and maintaining accurate and consistent institutional space inventories also must be addressed.

- Institutional research. There is considerable need to identify the types of institutional research that should be conducted to assist institutions in their management, planning, and development.

- Maintenance management. Implementation of improved methods of planning, scheduling, and measuring the performance of maintenance operations can best be accomplished by using universal maintenance standards (UMS). The tailoring of available data to institutional operations and the training of UMS analysts in the application of predetermined time standards can be achieved most economically through the training services organization.

- Custodial management. Implementation of improved methods of custodial management, including the team or task force approach supported by predetermined performance standards, would require centrally administered training of custodial managers.

- Food service management. Numerous economies could be achieved by improving food service operations, which are similar at all institutions. Menu planning, food purchasing, food-serving techniques, and the supervision of large numbers of food service personnel are areas for which training is vital, particularly because several institutions that should operate their own food services currently contract them to outside vendors.

- Inventory control. Methods of inventory management are needed to allow inventories to be controlled in a knowledgeable manner that increases their turnover and reduces the unnecessary value carried. Training in inventory management techniques should be provided for bookstore managers, food service managers, purchasing personnel, maintenance managers, and stockroom personnel.

- Library management. Library operations across the state are extremely large and provide unlimited opportunities for improvement in management techniques. Professional training in methods of procuring library materials and services is paramount. In addition, techniques of organizing and supervising large numbers of clerical and student worker personnel are required.

- Educational technology. The innovative and integrated use of audio-visual/communications media equipment, library resources, and the computer will evolve most economically and quickly when these resources are addressed on a system-wide basis from the coordinated application of centralized training in the latest technologies.

# IV. COLLEGE AND UNIVERSITY MANAGEMENT

# IV. COLLEGE AND UNIVERSITY MANAGEMENT

In our management review of Virginia public higher education, we analyzed each of the senior institutions of higher education in terms of organizational structure, financial management and control, planning, systems and data processing, space utilization and registration, auxiliary enterprise operations, materials management, personnel policies and procedures, plant operation and maintenance, and library operations.

The many outstanding accomplishments and characteristics in each of the colleges and universities should be sources of justifiable pride. Our review was not intended as an inventory of these values, however. Instead, we examined areas where problems were found to exist and opportunities for improvement could be developed. Therefore, our discussion of the colleges and universities is presented in these terms.

## SUMMARY OF FINDINGS

If the colleges and universities are to achieve their fullest potential, their administrators must enthusiastically grasp the fact that these institutions are complex human financial endeavors and that they must be comprehensively managed from this point of view. A defensive posture excusing a lack of management is often taken; the statement is made that higher education is not a factory and no attempt should be made to make it one. We agree, but this does not in any way eliminate the necessity for the application of well-founded principles of management. Though each institution is different, the following will indicate some of the more common needs for improvement within the system of higher education:

- The Boards of Visitors responsible for the management of each institution do not evidence an understanding of the full scope of their responsibilities. They do not routinely require or receive information that would enable broad management of an institution. Structured reviews of the performance of the administration of the college or university do not take place, and this has repercussions beginning in the office of the president and extending to all levels.

- Reports have not been properly structured for effectual management at any level: board, officer, director, or manager. Because the board does not require documented evidence of performance accomplishment, it is not provided and, in fact, in many instances does not exist. This is particularly true in the case of auxiliary enterprise operations, where very few managers have the benefit of the guidance provided by a monthly profit-and-loss statement.

- Inadequate plans have been prepared to guide the development and management of the institution. Little research on educational needs has been done, academic plans are not documented, and financial plans are shallow. Cost and benefit implications of computer and systems activities are not determined, so there is no assurance that the university's purposes are being served. Long-range planning functions do not exist, and few institutions are aware of the need for them.

- Because of poorly coordinated state-level planning, there are too many institutions and several are in locations of little need.

- Although the assets of the public colleges and universities are worth more than $500-million, there is little comprehension of the need and means by which maximum utilization of these resources can be obtained. Present space standards used to justify capital expenditures are too low and informal. The system is overbuilt in terms of class room capacity. More than $80-million has been requested for facilities that are not required, or the facilities already exist and are not used because enrollments cannot be attracted to some schools or are not accepted at others.

- Facility requirements of libraries are not well planned or controlled and require excessive capital investment; large numbers of obsolete books are retained; and common principles of purchasing are not employed in the acquisition of books. Millions of dollars are involved.

- Wage levels of classified employees do not reflect urban, rural, or regional differences, and as a result, institutions in several areas cannot attract or hold qualified employees.

- All but a few institutions require strengthening of management procedures in maintenance and custodial activities.

- Audit procedures employed by the state are inadequate, not timely, and need considerable modification to make them effective tools of management.

## RECOMMENDATIONS FOR IMPROVEMENT

The following recommendations address the problems just cited and others. Certain of the recommendations must be effected at the state level and others at the individual institutions. For this reason, we have designated the level at which the implementation action should take place within each functional category.

## Financial Management and Control--State Level

### 1. Improve external audit coverage, and eliminate internal auditors.

Virginia law requires that the State Auditor of Public Accounts audit all state agencies at least every two years. This procedure is not completely followed in all institutions; for example, Madison College and Virginia Military Institute have not been audited since 1970. In many cases, the audits are completed so long after the period under review has ended that they are of little or no use for control purposes. Examples are the fiscal 1971 audit, which was completed at George Mason University in March 1973 and at Mary Washington College in December 1972 and still is in process for the University of Virginia.

Expenditures for all four-year colleges and universities total more than $330-million a year. It is unacceptable for such major expenditures of funds to be unaudited. Therefore, the operations of the State Auditor of Public Accounts' are inadequate in terms of coverage and timeliness of reporting.

The time required for these audits greatly exceeds that expected for organizations of this size, examples of the time expended include more than two man-years on Old Dominion University's most recent audit and the two man-years on Virginia Commonwealth University's audit through March of 1973--which is not yet completed. Expenditures for personnel are closely controlled through payrolls by the State Division of Personnel and the State Comptroller's Office. In addition, expenditures for equipment and services also are verly closely controlled through the State Department of Purchases and Supply. Therefore, audit of these areas should be very limited and should use the modern statistical sampling techniques regularly employed by major public accounting firms. The adoption of modern auditing techniques should easily enable an audit of every institution every year at no additional expense.

Several schools now have an internal audit function, including George Mason University, Old Dominion University, the University of Virginia, Virginia Commonwealth University, Virginia State College, and the College of William and Mary. In addition, Longwood and Madison Colleges intend to request such a position. With the annual state audits recommended above, internal audit functions are entirely superfluous and should be eliminated. This staff reduction will generate savings of about $95,000 per year.

Another area requiring audit attention is that of endowment funds. The University of Virginia has funds aggregating $100-million and the tally of William and Mary's funds aggregate $5-million. The every-other-year audits by the State Auditor of Public Accounts are entirely inadequate for proper stewardship for funds of this magnitude.

The audit reports issued do not specifically state that all assets were physically verified for existence and evidence of ownership, and no summary of transactions accompanies the report to indicate the profit and loss on individual sales. We believe an annual audit is necessary for adequate protection of the substantial assets involved and of the individuals charged with their management. Accordingly, we recommend annual audits with expanded coverage. If the State Auditor of Public Accounts is unable or unwilling to undertake this task, consideration should be given to retention of an independent auditing firm.

Review of the audit reports issued for the four-year colleges and universities indicates that audit procedures are not designed to verify compliance with the Chart of Accounts issued by the State Council of Higher Education. For example, one college uses a system of auxiliary enterprise accounting whereby the total results of all operations are always adjusted to break even; therefore informed management is precluded and no reserve for future needs is developed. This is contrary not only to the State Council of Higher Education Chart of Accounts, but also to the instructions issued by the State Auditor of Public Accounts. Therefore, a review of the State Council's Chart of Accounts should be made by the State Auditor of Public Accounts so that the audit procedures used ensure that the four-year colleges and universities are in compliance with that Chart of Accounts.

2. Mechanize payroll calculations.

Even though on-site computer equipment exists, or access to major computers through terminals is available, several schools still calculate payrolls completely manually. Results then are commonly transferred to the computer for summarization, but this is an inefficient use of equipment and personnel. Major examples include the College of William and Mary, Old Dominion University, and Virginia State College, all of which have large computer installations and Madison College, which has a terminal linked to the University of Virginia. Adoption of this recommendation should eliminate sufficient clerical personnel now performing this function manually to save $100,000 per year.

3. Transfer preparation of all payroll checks to colleges and universities.

According to present procedures, payrolls for all faculty and classified personnel are prepared at the institutions and then transmitted to the State Comptroller's office for preparation of checks. Payrolls for hourly personnel are similarly prepared; however, the larger schools issue these paychecks themselves. Copies of these completed payrolls are forwarded to the State Division of Personnel for post-audit and review.

Recently, the State Comptroller issued a memorandum to selected institutions suggesting that they, too, should issue their own paychecks for hourly personnel. If the same procedure were followed for the faculty and classified payrolls, the control provided would equal that of the present system. In addition, the existing system of position and rate approval of additions and deletions would be maintained as a further continuance of state control.

Several collateral advantages would be realized. Because of the time saved, payroll data could be based on end-of-month actual amounts due rather than on estimates, as required by the present system. This, of course, generates additional savings by reducing the clerical effort now required to correct errors caused by the early cutoff.

We therefore recommend that the four-year colleges and universities be authorized to issue their own payroll checks. This could be a staged sequence in which the larger schools adopt this procedure first and then it is passed along to the smaller schools. Schools that apparently would have the initial capability of adopting this recommendation would be the University of Virginia, Virginia Commonwealth University, Virginia Polytechnic Institute and State University, and the College of William and Mary. Considering the savings in clerical effort, postage, expedited transport expenses, and duplicated record keeping, we estimate that annual savings for implementation of this recommendation at the initial four schools should aggregate $120,000 per year. Potential savings of more than $250,000 per year should be available when implementation is made at all schools.

### 4. Revise state policy on fire insurance coverage.

At present, fire insurance coverage on college and university buildings is placed with local agencies under the direction, generally, of the chief financial officer of the school. A review is performed at the state level, but it appears that school recommendations are generally followed in all cases. Considering that the insurable values of the 15 four-year colleges and universities aggregate several hundred million dollars, state-level negotiation of a single policy probably would provide savings over the present piecemeal approach.

Further, we recommend that a study be made of the possibility of eliminating all insurance coverage in favor of a self-insured plan by the state. Given conditions that exist at all schools, that fire loss is expected to be limited to a single building, this situation would lead to inconvenience but not to discontinuance of operations. Expanding this viewpoint to the system-wide situation and the history that shows very modest fire losses, there could be substantial cash flow savings to a self-insured program.

Annual premiums for all four-year colleges and universities aggregate about $500,000. Therefore, annual savings on a consolidated policy might amount to $50,000 or more. Establishment of a state fund, with this level of contribution from the schools, invested at the high interest returns now available, would soon generate a fund of several million dollars. At that point, barring a series of catastrophic losses, further contributions could be sharply reduced, or eliminated, for potential savings of the entire $500,000 current annual cost.

### Financial Management and Control--Institutional Level

5. Develop a comprehensive program of management performance review.

None of the four-year colleges and universities has an adequate program of performance review. In the latter part of each fiscal year when total expenses are reviewed against funds available, frequently unexpended monies are reallocated to departments that have the ability to make these expenditures quickly enough to complete them by the end of the fiscal year. This practice obviously is not an orderly or planned use of resources. In addition, with the notable exception of Virginia Polytechnic Institute and State University, most auxiliary enterprises show generally poor performance; losses were inccured at four schools. Casual attention to management performance occurs in all areas of administration. For correction of this problem, every manager must be made aware that results are being reviewed regularly and are considered significant in the evaluation.

To provide a basis and an atmosphere for corrective action, adequate reports must be supplied to the Board of Regents and to the Board of Visitors and the President of each institution. These reports should be issued at intervals that are geared to the individuals concerned, but not less than quarterly for the proposed Board of Regents and the

Board of Visitors and monthly for the President. In addition, monthly reports and weekly reports for some fast-moving operations such as food service--should be prepared and presented to each academic and service department head, such as libraries and buildings and grounds, as well as to all auxiliary enterprises managers. This program of identified and required accountability and reporting will create an atmosphere of emphasis on performance that should improve results in all areas.

6. Provide appropriate and adequate management reports.

Implementation of a performance review program must be based on a series of timely, well-structured management reports. We found no such series of reports at any of the institutions we visited.

Most schools issue a monthly departmental expense report that compares the expenses for the year-to-date with the budget allowance for the entire year. Some reports show an unexpended amount remaining; others show actual expenditure as a percent of total year budget. Neither presentation is meaningful without separate analysis. For example, a calculation can be made that shows that as of the end of November, 42% of the fiscal year has passed. An assumption then might be made that 42% of annual expenses should have been made at that point. This assumption is erroneous because at all schools there is a normally low level of expense in July and August. In addition, in academic departments, many instructional supplies are purchased in September for the semester or the entire school year. Therefore, any comparison of the percentage expended with the separate calculation of percentage of the year passed is erroneous, and any conclusions drawn from this comparison also are erroneous. To correct this major deficiency, budgets must be planned for each month in a manner recognizing the varying natural spending levels anticipated.

Some schools omit any payroll information from their monthly reports on the theory that the personnel complement is relatively fixed. Although some very small departments may have no personnel changes throughout the year, it is no less important for their reports to show that their expenditures are at the budgeted rate. Obviously, in larger departments there will be changes in personnel complements, and it is even more important that these data be displayed. In addition, any manager who is charged with control of expenditures should have reported to him the total of all expenditures for the area under his control and their related budget amounts.

Another common lack of management reports and information was found in auxiliary enterprise operations and educationally related activities where revenue data are seldom provided to managers. This is a particularly serious omission because revenues and expenditures are related in these functions. For example, if all expenses in the food service operations were exactly on budget, it might be assumed that the manager was performing his job properly. This is not necessarily true, however. If revenues during that period were significantly below those budgeted, the budgeted profit would not be realized and revised plans should have been made to reduce expenses in proportion to reduced revenues. Profit-and-loss statements must be provided to each manager no less than once per month.

Although some presidents receive summary data for their review, this is not a common practice at all schools. Data supplied to the Board of Visitors are very limited and, in some cases nonexistent except for the annual report. Most annual reports contain excessive numbers of detailed financial statements that are not designed to serve the needs of comprehensive management.

Therefore, an entirely new set of reports must be developed; the following are recommended.

## Departmental Monthly Operations Report

To be an effective tool for analysis and control, the monthly report given to departmental managers must contain as a minimum, the following data:

- The budget allowance planned for that month and actual amounts expended and committed (encumbered) for each category of expense for the month and the year-to-date.
- Actual and budgeted month and year-to-date revenues for auxiliary enterprises and other revenue-producing activities.

- Differences from budgeted expenses and revenues for the month and year-to-date.

Managers should be expected to provide short commentaries when significant differences between the budget and actual occur, stating reasons for the differences and corrective action taken.

## Monthly Summary Reports

For the management of the institution to reach conclusions and decisions appropriate to changing financial conditions, a monthly report should be issued to the president in summary form, with the total results for each administrator reporting directly to him and with special summaries for such activities as auxiliary enterprises. This report should include narrative comment on significant differences from the budget and an action taken for correction and a forecast of results for the remainder of the year. This report may be used by the President as a basis for his report to his Board of Visitors.

## Quarterly Reports

Within 30 days of the close of each quarter, the Board of Visitors and the Board of Regents should be provided with a report that shows the budgeted revenue and expenditures for that quarter and the year-to-date, compares these actual revenues and expenditures for those periods, and forecasts the results for the remainder of the year compared with the budget. A narrative statement of major differences and actions taken should be included with this report, too.

## Annual Report

For full and meaningful disclosure of the results of operations of the year just ended and an indication of the trends experienced and anticipated, the following should be included in the annual report as a minimum:

- A narrative summary of the year's financial result, emphasizing information not available from the basic financial data, such as reasons for unusual items of revenue or expenditure, enrollment trends, and employment levels.
- A one-page financial summary with actual results for the current and the two preceding years and the budget for the current year and the ensuing year.
- A summary statement of the opening balances, additions, and reductions and closing balances of the various funds under the control of the school.
- A summary of results of operations for all auxiliary enterprises individually and in total.

### 7. Discontinue use of cash basis accounting on reports used for management control.

At present, the books of accounts of the colleges and universities are maintained on what is called the cash basis. This means that financial consequences of management decisions are recognized only at the time a transaction is finalized. However, issuance of a purchase order is a definite commitment of funds to a particular purpose. Failure to recognize this outstanding commitment between the time it is made and the time the actual invoice is received results in an overstatement of the budget remaining to be spent, which could lead to excess expenditures over budget allowances. Several schools attempt to do this on their internal reports by a process of "encumbering." This involves an off-book recording of outstanding purchase orders against the expenditure in the department in which it is made. This technique has not been implemented at eight of the 15 four-year colleges and universities.

The use of cash basis accounting also has another effect when inventories are significant. It does not recognize the value of inventories on hand; accordingly, any increase in an inventory is considered an expense, whereas, in fact, this is an increase in an asset and stands in the place of cash in any normal financial presentation. An example of the impropriety resulting from this treatment can be found in the annual financial report of Madison College. The report shows that the bookstore lost $56,000--a situation that should be calling for substantial remedial action. However, the bookstore increased its inventory investment by $58,000 during the year, so the results of operation were actually a $2,000 profit.

We therefore recommend that these two major deficiencies of cash basis accounting be overcome by proper recognition of committed funds not yet represented by actual invoices on hand and recognition of inventory values in operations where these are significant.

8. Centralize accounting operations.

A major duty of the chief business officer of each institution is to develop and disseminate regular reports to each departmental manager showing the results of operations compared with the budget. At several institutions, the reports issued are considered so untimely and inaccurate that individual departments have installed their own accounting functions to provide themselves with this information. This highly inefficient solution to the problem has resulted in a proliferation of clerical positions. Inasmuch as the efforts of these decentralized accounting activities are not under the direct control of the chief business officer, they are typically uncoordinated and their reports are not necessarily accurate either. This situation was most noticeable at the University of Virginia, Virginia Commonwealth University, and Norfolk State College. It also existed to a lesser degree in the physical plant departments of several institutions, including Virginia Polytechnic Institute and State University.

We recommend the elimination of all separate accounting functions in nonaccounting departments. To implement this recommendation, each chief business officer should review his institution to identify where these situations exist and then eliminate the need for them by providing appropriate reporting data from his department. Elimination of the significant number of clerical positions now used should result in an annual saving of at least $400,000 per year.

### 9. Separate the functions of cash handling and accounting.

Good fiscal control requires that personnel responsible for cash receipts do not report to a manager who has authority for the accounting for its receipt. This standard organizational device is designed to minimize the opportunity for wrongful appropriation of funds or defalcation by dividing the activities associated with cash among several individuals, each reporting to a different manager, so that collusion of a number of individuals is required to effect improper use of funds. This separation of duties is not sufficient at Mary Washington College, Radford College, University of Virginia, Virginia Commonwealth University, Virginia Military Institute, and the College of William and Mary.

We therefore recommend that the chief business officer of each institution be instructed to provide for this division of duties and report to the chief financial officer of the Board of Regents the organizational structure and technique by which it has been accomplished.

## Planning--State Level

10. Discontinue the operation of Christopher Newport College as a four-year institution.

This college is essentially a small liberal arts school that is projected to remain small for the next 10 years, even though it is in one of the most densely populated regions of the state.

The area surrounding Newport News is dominated by large shipyard employers and massive military installations. This undoubtedly was the reason the U. S. Office of Education suggested the establishment of a comprehensive community college in 1959. It also was the reason the Virginia Higher Education Commission in 1965 recommended that the institution not be developed to emphasize liberal arts because the needs of the region seemed to be much more structured and goal oriented. However, Christopher Newport College is essentially a liberal arts school, thus departing from its original basis for founding as well as from recommendations of a major subsequent study. Substantive research on the needs of the community as a basis for this departure was not performed.

However, four community colleges have been formed and are participating in the dynamic growth of the Tidewater region. In addition to Christopher Newport, three other four-year institutions are within commuting distance of Tidewater residents. The College of William and Mary serves the state rather than the region and has chosen not to grow, despite a classroom capacity twice its current enrollment. This shifted responsibility for serving regional needs onto Old Dominion University, yet it has grown even less than Christopher Newport in the last five years. The third institution is Norfolk State College, which emphasizes the needs of black students.

Thus, the continuing need for Christopher Newport as a four-year institution is not apparent and there is no basis for its continued operation as a four-year institution. We therefore suggest that it be closed and that an investigation be conducted to determine whether its facilities could be better used by the Virginia community college system. Savings represented by this recommendation are estimated at $740,000 per year and at $4.6-million in capital by disposition of current facilities. In addition, requested capital outlays totaling $11.3-million would be avoided.

11. Evaluate academic implications and feasibility of merging Radford College with Virginia Polytechnic Institute and State University.

Both of these institutions illustrate problems that should be addressed in the development of a master plan for higher education in the state.

Radford College has an absence of high-demand course offerings and a declining enrollment; one-third of its classrooms are unused and 930 of its dormitory spaces are empty; the debt service requirement is very large.

A way in which this institution is used to its capacity must be found so that its assets are not wasted. One way would be to place growth programs in this college and require that students desiring public higher education in such programs obtain it at this location. Another means would be to merge the institution with its very rapidly growing neighbor, Virginia Polytechnic Institute and State University.

The master plan should base its decision upon economics, which indicate that a merger would enable savings of $1.3-million per year and $14.8-million in capital. Placement of growth programs at Radford would enable full utilization of facilities and realize savings approaching $460,000. It would be far more economical to merge the two institutions; however, the academic implications of merger should be weighed first.

12. Evaluate academic implications and feasibility of merging Clinch Valley College with Mountain Empire Community College.

Clinch Valley College provides a good example of the need for state-level master planning for both two-year institutions and four-year institutions. Clinch Valley College was established prior to the development of the community colleges and originally functioned as a combined community college and institution offering four-year baccalaureate programs. One of its major founding purposes was to assist in the economic development of the region. The needs of the students in the area were job-oriented, thus a large portion of the students were in terminal programs.

A community college has now been established at Big Stone Gap, about 12 miles from Clinch Valley College. Terminal programs will be phased out of Clinch Valley College by 1976. Enrollment in the fall of 1972 was only 765 students, and the college has concluded that if it is to expand, it must begin to serve a state purpose and draw students from outside the area. Dormitories now are being constructed to assist in this purpose. However, even by 1982, enrollments will not exceed 1,100. The attraction of students from other portions of Virginia is not logical from the standpoint of the state because space now exists at other institutions.

In this region, there is not a sufficient basis for the long-term growth of both Clinch Valley College and Mountain Empire Community College. We therefore suggest that one or the other be discontinued, and depending upon the needs identified in the state-wide master plan for higher education, it may be desirable to make Clinch Valley College an exception to the statute requiring that all two-year terminal programs be taught in community colleges. Another alternative would be to discontinue the four-year program at Clinch Valley College and transfer its facilities into the community college system.

A detailed review was not made of the potential financial benefits that would result from merger of Clinch Valley College and Mountain Empire College by either of the two alternatives mentioned; however, a very modest estimate of anticipated savings is $150,000 per year.

## Planning--Institutional Level

13. Establish a planning function at each college and university, and develop a long-range plan to guide the comprehensive development and operation of the institution.

Although the budgets of the public institutions of higher education range from approximately $1.5-million to almost $100-million per year and the capital investment is in the hundreds of millions of dollars, no documented comprehensive plans guide the development of any of these institutions.

For the most part, planning is separated among various functions within each school. No one is responsible for coordinating, integrating, and focusing these efforts into a plan that guides the institution in the fulfillment of identified long-range purposes and objectives so that maximum educational benefits may be obtained from the considered application of the institution's resources of people, facilities, and funds.

At certain of the institutions, an awareness of the need for long-range planning has developed. Old Dominion University has gone farther than others, but is still a long way from completion. The College of William and Mary has indicated an intention to begin work in this area, as has Madison College.

In our judgment, this lack of a unified planning function is the most serious void in management found in Virginia's public institutions of higher education. Its implications are unending, and the adverse repercussions of this void affect not only quantity and economy of education but also its quality.

We recommend that each institution establish planning functions that encompass the necessary institutional research to identify long-range needs of students and the general public, the coordinated development of academic plans to fulfull these needs, and the nonacademic, facility, operating, and capital plans designed to accomplish the objectives of the institution on a scheduled basis.

A planning function should be headed by a director or a vice president reporting to the president and be responsible for the following functions:

- Institutional Research. This function develops the basic data that are needed by all activities involved in planning. It serves as the authoritative information source for all departments of the institution requiring such planning data as student enrollment forecasts, in total and by academic department. In addition, it performs in-depth studies of faculty load, program costs, and space utilization.

- Academic Planning. The head of planning coordinates the development of an academic plan in which future curriculum plans based upon research on anticipated developments in technology and on the needs of society and the Commonwealth of Virginia are outlined, together with projections of student enrollment, new course offerings and deletions, and faculty size and makeup. Also, recruiting and development programs must be designed to provide the faculty needed to carry out future academic programs. In addition, special classrooms, laboratories, and other facilities requirements of the long-range academic plans must be outlined. The additions or changes necessary to support the academic plan in the library must become an integral part of the academic plan.

- Nonacademic Planning. Here plans for necessary supporting staffs and operations, such as accounting, personnel, bookstores, computers and management systems, physical plant maintenance, security, and the like, must be developed in context with the academic plan.

- Facilities Planning. Available facilities and their use determine whether academic plans can be implemented. Facilities for higher education are costly and require a great amount of time to create. For this reason, they must be designed to meet long-term needs. This aspect of planning should include classroom and laboratory facilities as well as auxiliary and support service requirements.

- Operational and Capital Planning. To ensure adequate financial support, an operating plan must be developed to identify financial and administrative needs created by the academic, nonacademic, and facilities plans. Here capital investment must be scheduled and operating expenditures determined. The time span for this period should coincide with those of the academic, nonacademic, and facilities plans.

The planning function also would be responsible for controlling the use of classrooms, laboratories, and office space and would work with the Registrar to coordinate the improved utilization of these facilities. In addition to long-range planning, this function would serve as the budget planning office to coordinate the development of the annual budget as the first year of a long-range plan. The completed comprehensive plan for the institution should be documented and maintained current on an annual basis.

Each institution must equip itself with a documented plan so that it can knowledgeably contribute to the development of a state-wide master plan by the proposed Board of Regents. Until the state-level master plan is developed, however, no institutional plan is valid, because it will not be known whether it is in context with the state's needs and priority application of resources.

14. Reduce costs of computer equipment through third-party leasing and study potential savings of outright purchase.

The three basic means of paying for computer equipment are a lease from the manufacturer, a lease from a third party, or outright purchase.

Most major installations at Virginia institutions of higher education are on the lease-from-manufacturer basis; these include Virginia Polytechnic Institute and State University, Virginia Commonwealth University, the College of William and Mary, Virginia State College, and several smaller institutions. Two of the three computers at the University of Virginia and the equipment at Old Dominion University are on a third-party-lease basis.

The annual rental charge on equipment leased directly from manufacturers totals about $2.6-million. Third-party leasing normally provides a 22.5% savings from manufacturers' leases; this represents a potential savings of $585,000 annually on existing equipment.

Two reasons are advanced for not using third-party leasing more extensively. First, it normally requires a commitment of at least five years. Considering that a well-planned installation should be expected to use major equipment for at least that long, this reservation is unfounded. Second, commitments that go beyond the normal biennial legislative period require special authorization, which is considered too complex to apply for and too difficult to obtain. This too is a specious argument, as evidenced by the existence of third-party leases at the University of Virginia and Old Dominion University. The real reason for not taking advantage of the savings of third-party leasing appears to be a lack of policy direction at the state level.

Before a final commitment to third-party leasing is made, however, we recommend that a study be initiated to evaluate the potential savings of outright purchase. The third-party lessor is in business to make a profit on the lease. The leasing charge is determined by the difference between the cost and the end-of-lease value of the equipment plus an interest and service charge, which is the lessor's profit. Therefore, any user could take the same position, keeping the profit for himself, if he had the ability to finance the original purchase and to sell or use the equipment at the end of its original program.

The state of Virginia probably could meet the capital requirements on a staged program. The major advantage, and very great savings, would accrue on the placement of the used equipment. The possibilities for such placement are not limited to institutions of higher education; any agency in the state should be considered. A basic policy might provide for acquisition of the most modern and sophisticated equipment for the institutions of higher education to best accommodate the needs of advanced research techniques. Five years hence, the equipment could be utilized very profitably by another agency whose requirements are less sophisticated but would still be well served by this powerful equipment.

A recent comprehensive study of computer uses in higher education in the state of Illinois has found, among other things, that technological advances appear to be coming much more rapidly in peripheral equipment than in the main frame computer. Their position, therefore, is that main frame computers, or central processing units, should be purchased, but that peripheral equipment might still be leased. These advances in peripherals are providing extended useful lives to the central processor, which is not mechanically worn out over a 10-year period.

As an example of the savings available, the lease cost for a $3-million piece of equipment would be $720,000 per year and over 10 years would aggregate $7.2-million compared with a cumulative purchase cost, including maintenance, insurance, and interest (6%), of only $4.8-million, an overall savings of $2.4-million. Considering that the current annual lease costs from the manufacturer in Virginia higher education are aggregating $2.6-million for those systems alone, this is three and one-half times the $720,000 annual lease cost used in the simple example just quoted; therefore, potential savings for purchase as compared to leasing aggregate more than $8-million.

## Systems and Data Processing--Institutional Level

### 15. Distribute full and accurate monthly charges to each using department.

Operating costs of computer centers at the 15 four-year colleges and universities now total more than $7-million a year. Efficient utilization and control of this major expense necessitate that each user department be charged for the cost of the actual services rendered each month. This amount should be compared with the budget allowance for that department to measure its position against that allowance. Failure to provide a properly determined budget amount and to charge for actual expenses on a monthly basis would leave this major expense in an uncontrolled condition, which is not acceptable management.

The Chart of Accounts of the State Council of Higher Education recognizes the necessity for this approach. It states that all costs for automated data processing will be gathered in a single account, so that the total expenditure can be evaluated, and "All expenditures recorded in the clearing account must be allocated to the using function."

Most of the colleges and universities are not making proper charges to using departments for these services. This deficiency is not limited to the smaller schools, but includes such major installations as the University of Virginia, Virginia Commonwealth University, and the College of William and Mary.

We therefore recommend that the chief business officer of each institution be instructed to implement a program of full and accurate monthly charges immediately. Virginia Polytechnic Institute and State University uses a sophisticated, almost fully automatic, charging system generated on its computers. This may be adaptable to some of the larger installations. Otherwise, the directors of the computer centers should be instructed to develop an equable method of current cost distribution, which should be reviewed and approved by the chief business officer.

16. Develop a long-range plan incorporating computer center objectives, programs, costs, and benefits at each institution.

The use of computers for academic and administrative needs is growing throughout the 15 four-year colleges and universities and now exceeds $7-million in annual expenditures. Yet we found no institution with a long-range plan to ensure the propitious usage of these high-cost facilities. We therefore recommend that the prime assignment of each computer center director be the development of such a long-range plan. It should have substantial input from the President and his immediate subordinates and members of their staffs. The final plan should be approved by the President.

As a minimum, the plan must represent the time-phased integration of computerized systems with the overall needs and objectives of the institution. It should include details for each of the next five years and general plans for the ensuing five years, including:

- A statement of objectives in terms of the computer center
- A summary of identified needs
- Projected equipment configurations and costs
- Projected staffing levels and costs

- A schedule of specific systems applications that reflect the institution's priorities and anticipated funding capability
- Dollar quantification of benefits.

The plan must represent a balanced approach to meeting the academic and administrative requirements of the institution. It must not be considered static, but should be revised and updated annually.

17. Provide for all computer centers to report to the chief business officer.

The growth of computers in replacing manual data preparation and in aiding education has resulted in a high degree of concentration of expensive equipment in a single department. It is critical to the success of these departments and to their efficient and economical usage that they receive well-structured, planned direction. We believe that the administrative area where the atmosphere of control and discipline is most strong is the organization of the chief business officer. Four of the installations among the four-year colleges and universities are now so placed in their respective organizations. These include what are, in our opinion, the two most successful installations; Virginia Polytechnic Institute and State University and the University of Virginia. Accordingly, we recommend that responsibility for the computer centers be transferred to the chief business officer at each institution.

## Space Utilization -- State Level

18. Adopt the student-station-utilization indicator for measuring instructional space usage performance.

In the fall of 1970, the State Council of Higher Education for Virginia published a document entitled "Utilization of Instructional Space," which summarized, in tabular form, the use of instructional classroom and laboratory space among the institutions of higher education. The report identified by institution, for both day and evening classes, the following:

- Number of rooms
- Total room-periods used per week
- Average room-period use per week
- Number of student stations
- Total student-station-periods occupied per week
- Average student-station-periods per station per week
- Percent of student station use per week when room is in use
- Student-station-periods occupied per week per FTE student
- Square feet per student-station-period occupied.

Although the student-station-periods occupied per week per FTE student (SSPO/wk/FTE) is ultimately applied within the capital planning formula to determine classroom and laboratory space needs, none of these factors actually reflect the space usage performance of the institutions. In other words, space usage is not analyzed in relation to the amount of space available. Thus, the report does not identify the specific data needed by individual institutions to manage and improve their space usage.

The State Council's most recent space utilization publication is now three years old, and the next one has been postponed until the fall of 1974. Thus, the only available information is neither timely nor sufficient to actually improve the management of space utilization.

For measuring actual space usage, several states use the "student-station-utilization indicator," which identifies the actual percentage of student stations utilized relative to the total number available. This indicator can be expressed as the number of hours rooms are scheduled divided by the total hours available (usually nine hours per day, or 45 hours per week) multiplied by the percent of student station occupancy (when the room is in use).

A typical student station utilization report for a university in another state is shown in the table on the following page. The data in this table show that the institution's overall classroom student-station utilization is reduced by its inability to schedule more classes between 2:00 p.m. and 5:00 p.m. Also, classroom utilization is low on Tuesdays and Thursdays, indicating the need for revising the system of scheduling.

The student station utilization indicator not only summarizes the institution's overall space use performance, but also can be reported for each hour of the day and day of the week. Thus, scheduling practices

## TYPICAL STUDENT-STATION UTILIZATION AT A FOUR-YEAR INSTITUTION IN OREGON

| Time Period | Classrooms | Laboratories |
|---|---|---|
| 8:00 a.m. - 9:00 a.m. | 51.0% | 18.6% |
| 9:00 a.m. - 10:00 a.m. | 62.7% | 45.1% |
| 10:00 a.m. - 11:00 a.m. | 67.5% | 43.7% |
| 11:00 a.m. - 12:00 noon | 57.6% | 40.0% |
| 12:00 noon - 1:00 p.m. | 47.4% | 25.3% |
| 1:00 p.m. - 2:00 p.m. | 49.8% | 37.9% |
| 2:00 p.m. - 3:00 p.m. | 35.2% | 47.5% |
| 3:00 p.m. - 4:00 p.m. | 13.4% | 41.7% |
| 4:00 p.m. - 5:00 p.m. | 4.8% | 23.0% |
| 8:00 a.m. - 5:00 p.m. Average | 43.2% | 37.2% |
| Monday | 54.3% | 37.4% |
| Tuesday | 27.0% | 41.9% |
| Wednesday | 45.4% | 36.9% |
| Thursday | 27.1% | 39.5% |
| Friday | 52.2% | 29.6% |
| Saturday | 0.5% | 0.1% |

can be modified to distribute course offerings in a way that achieves better space utilization. Moreover, such reports should be published on a timely basis, ideally, at the end of each quarter or semester, or at least annually. The periodic publication of space use reports, in terms of the student-station-utilization indicator, allows an institution to actually affect the use of its space, simplifies the scheduling procedure, and ensures that adequate space is available for increased enrollments without additional capital investment for new facilities.

19. Evaluate capital requests for classroom facilities against higher standards of student-station-utilization.

The state has established space planning guides by type of space to determine facilities requirements of institutions of higher education. Because classroom facilities are the focal point of the educational process, our analysis of institutional space utilization performance was concentrated in this area.

The state's general classrooms and service space planning guide for four-year institutions is 0.955 assignable square feet (ASF) per SSPO/wk. This guide is based upon a required student-station area of 16 ASF and assumes that classrooms are utilized an average of 25 hours (periods) per week and that they are filled to 67% of their capacity during the hours that they are used. This guide, when translated into the student-station-utilization indicator suggested for adoption in the previous recommendation, is equal to 37.2%. In our judgment, 37.2% is low, compared with levels of space use that can be achieved through effective systems of classroom scheduling.

A 1970 publication of the State Council of Higher Education for Virginia, "A Compilation of Space Planning Standards Utilized Throughout the United States," compared Virginia's standards for room period use per week and percent of student station occupancy during hours of use with those in 17 other states. Virginia's 37.2% rate of student-station utilization ranked 16th among the 18 states. Only one other state used less than 30 room periods per week in its standards, and only three states had a greater ASF per student station occupied. Moreover, New

Mexico, New Jersey, California, and Ohio used student station utilization performance standards of 59.9%, 51%, 50%, and 50%, respectively.

Based upon the classroom space usage performance in the fall of 1970 (the latest publication of the State Council), only four state institutions surpassed the equivalent student-station-utilization standard of 37.2%. The system-wide average was only 30.4%, as indicated in the table on the following page. Moreover, the 1970 student-station-utilization performances, as calculated from the Council's data, do not reflect the 12% enrollment decrease at Radford College and the 260% increase in student stations at George Mason University since 1970, factors that reduce the utilization achieved by the two institutions. The validity of the student-station-utilization rate at Virginia Commonwealth University four years ago is also unknown, because that institution currently has an excess of 42,000 square feet of classroom space, based upon the present standards.

Review of the assignable classroom space data shows the following detrimental effects of the present low standard of space usage:

- The latest student-station-utilization data show that the system-wide space usage is only 30.4%, well below the planning guide of 37.2%.
- The currently available assignable classroom space among the institutions could accommodate the FTE day enrollment projected for 1982. In fact, as shown in column 6 of the table, there is an excess of almost 22,000 ASF (column 5 minus column 4).

## USE, AVAILABILITY, AND NEED OF ASSIGNABLE CLASSROOM SPACE

| | (1) 1970 Stu. Sta. Utilization | (2) 1972 Day FTE | (3) Proj. 1982 Day FTE | (4) Existing ASF | (5) 1982 ASF Need @ 37% | (6) Additional ASF Needed @ 37% (5-4) | (7) Projected 1982 ASF Need @ 50% | (8) Additional ASF Needed @ 50% (7-4) | (9) ASF Requested for 1974/76 |
|---|---|---|---|---|---|---|---|---|---|
| Christopher Newport | 22.2% | 1,140 | 2,253 | 23,627 | 33,995 | 10,368 | 25,300 | 1,673 | 40,767 |
| Clinch Valley | 30.5% | 667 | 977 | 12,844 | 11,720 | (1,124) | 8,750 | (4,094) | 480 |
| George Mason | 45.6% | 2,991 | 8,625 | 67,862 | 111,198 | 43,336 | 82,800 | 14,938 | 19,500 |
| Longwood | 23.3% | 2,324 | 2,367 | 47,659 | 24,200 | (23,459) | 18,000 | (29,659) | 2,400 |
| Madison | 34.6% | 5,071 | 6,629 | 65,733 | 74,702 | 8,969 | 55,600 | (10,133) | 9,308 |
| Mary Washington | 25.6% | 2,190 | 2,017 | 43,699 | 26,490 | (17,209) | 18,500 | (25,199) | - |
| Norfolk State | 31.2% | 4,530 | 6,853 | 65,240 | 83,771 | 18,531 | 62,500 | (2,740) | 45,600 |
| Old Dominion | 32.8% | 6,531 | 10,096 | 101,624 | 119,556 | 17,932 | 89,000 | (12,624) | 4,425 |
| Radford | 40.6% | 3,278 | 3,873 | 58,246 | 54,000 | (4,246) | 40,200 | (18,046) | - |
| Univ. of Virginia | 30.2% | 12,112 | 14,617 | 180,318 | 171,689 | (8,629) | 128,000 | (52,318) | - |
| Va. Commonwealth | 38.0% | 9,771 | 13,086 | 167,193 | 124,971 | (42,222) | 92,900 | (74,293) | 15,600 |
| VMI | 11.3% | 1,274 | 1,356 | 71,063 | 19,684 | (51,379) | 14,620 | (56,443) | - |
| VPI | 41.5% | 14,615 | 20,000 | 141,997 | 241,000 | 99,003 | 179,000 | 37,003 | 76,688 |
| Virginia State | 12.2% | 3,376 | 3,746 | 81,141 | 32,600 | (48,541) | 24,200 | (56,941) | 14,392 |
| William and Mary | 25.0% | 4,861 | 5,272 | 83,035 | 59,914 | (23,121) | 44,600 | (38,435) | 8,595 |
| Total | 30.4% | 74,731 | 102,167 | 1,211,281 | 1,189,490 | (21,791) | 883,970 | (327,311) | 237,755 |

- Nine of the 15 institutions currently have excess classroom space, based upon the present standard and forecasted enrollment through 1982. Based upon a 50% standard all but three schools have more classroom space than is needed by 1982.

- At a student-station-utilization rate of 50%, there is sufficient classroom space among the institutions to accommodate an additional 43,043 FTE day students.

- Six schools (not including Virginia Military Institute) that now plan to maintain their enrollments close to current levels could accommodate an additional day FTE enrollment of 24,379. By 1982, as now planned, projected enrollments at these six institutions will accommodate only 16.4% of this capacity, or 3,951 students.

- Based on a student-station-utilization rate of 50%, there is currently a 327,311 ASF excess of classroom space relative to 1982 needs.

- Despite the excess classroom facilities, 11 institutions have requested a combined total of 237,755 ASF (column 10) for the 1974-76 biennium. Comparable requests are anticipated for the following two bienniums.

There is no doubt that, among Virginia's four-year institutions of higher education, classroom space exceeds current and projected levels of enrollment. During our study, we reviewed this overcapacity at each institution in terms of the school's particular enrollment growth projections and program characteristics. At six institutions -- Longwood College, Mary Washington College, Radford College, the University of Virginia, the College of William and Mary, and Virginia State College -- the investment in underutilized classroom facilities was so great, compared to their almost static combined enrollment projections, that the overcapacity could not be ignored. Thus, programs must be developed or transferred between institutions to redistribute future enrollments so that these existing facilities are properly utilized. By preventing unnecessary duplication of facilities on other campuses, capital construction costs of $30.2-million can be saved. These savings do not include any provision for accommodation of excess facilities at Virginia Military Institute because transferring programs to this special-purpose institution would not be practical. Furthermore, these construction cost savings exclude any specific plan for greater use of the current 42,000 square feet of excess classroom space at Virginia Commonwealth University, because about 35% of the classroom space in its inventory is rented or of poor quality and its use will ultimately be discontinued.

In addition to the existing classroom capacity that now remains idle, several capital construction programs planned for the next three bienniums cannot be justified by application of the present standards. Denial of unwarranted capital outlay requests for additional instructional facilities at four institutions would save capital investment of $30.3-million. Moreover, other capital outlay requests for particular major renovations of existing facilities and construction of nonclassroom education and general facilities totaling $10.8-million are unjustified and also should be denied. Altogether, our review identified $76.0-million in capital construction savings directly related to low usage and unused capacity of existing and planned facilities. This includes $4.7-million in capital savings that would result from more effective space management within library facilities, which is addressed in a later recommendation in this section.

In order to prevent continued costly duplication of existing instructional space, the state should evaluate future capital requests for classroom facilities against higher standards of student-station utilization. An achievable objective, which is used by several states, is 50% student-station utilization. This level would reduce the space planning guide from 0.955 to 0.711 ASF per student station, and it would reduce overall future ASF required by 25.5%. The eventual effect of a 50% student-station-utilization standard would be a reduction in future capital outlay requirements by the same percentage and capital savings of many millions of dollars. These savings would be in addition to the $76.0-million identified within the backup files on the individual institutions.

20. Require periodic audits of institutional space inventories.

For five out of the past six years, the State Council of Higher Education for Virginia has published a document entitled, "Physical Facilities at Virginia's Colleges and Universities," which includes an inventory and general evaluation of physical facilities at Virginia institutions of higher education, both state-controlled and privately controlled. This document is being updated to reflect space inventory information for the fall of 1972. The collection and reporting of space inventory information is one part of the state's system of space management.

Naturally, inventory data must be current, accurate, and mutually understandable for a space management program to be effective. Because the data reported in the space inventories are compared with established space standards and thus become the basis for requests and authorization of capital outlay projects, the consequences of inaccurate data can be severe. Moreover, in our review we found that the accuracy of several institutional inventories varied considerably. In fact, major errors were acknowledged by the State Council and by several of the institutional representatives responsible for space information reporting.

Many of these inaccuracies can be attributed to the absence of procedures for conducting a comprehensive inventory and keeping it up-to-date. In many cases, the individual classifications of space are not universally understood or uniformly applied by those conducting the inventories. In addition, managers responsible for classifying new space from construction, renovation, or reassignment of functions do not always communicate these revisions to the space inventory analysts.

To ensure the viability of system-wide space management programs, the following steps should be taken:

- The overall responsibility for conducting, maintaining, and reporting space inventories should be assigned to a responsible administrator at each institution who will uniformly apply all space classifications.
- The State Council should require that a comprehensive physical inventory of institutional space be conducted under the direction of the space analyst every five years.

- Each institution should establish a continuing procedure for communicating additions, deletions, or transfers of space by classification to the space analyst. Adequate procedures for maintaining a perpetual space inventory would preclude more frequent and costly physical inventories.

- The State Council should require justification for conversion of classroom space to other types of space, such as faculty offices. Currently, institutions can establish a need for new classroom facilities by converting or renovating existing space.

- The State Council should periodically conduct detailed audits of the space inventories of all institutions.

Implementation of this recommendation would mean that space classifications would be applied uniformly and that future capital outlay requests would be evaluated by consistent criteria reflecting the overall priorities of the Commonwealth.

21. Modify space planning criteria required for approval of requested library facilities.

Guide No. 4 of the state's space planning guides specifically is the standard for library stack, reader, and service space. The stack space guide is 0.0833 ASF per bound volume or equivalent housed in the library. The reader or study space guide is a seating area that accommodates library users on the basis of 6.25 ASF for FTE day undergraduate students and 8.75 ASF per FTE graduate students and faculty. The service space guide for office and related service areas is 25% of the total stack space and reader and study space previously determined.

Although these planning guides have placed each institution on a common basis for requesting library space, they have the following serious limitations:

- The stack space guide that is used to justify additional storage capacity does not distinguish between current and obsolete holdings. Most institutions are wasting prime stack space by storing large numbers of very rarely used or even obsolete volumes, and, at the same time, might be initiating capital outlay requests for new facilities. For example, over 6% of the Virginia State College library holdings are acknowledged to be obsolete and 35% of the University of Virginia's law library holdings have been identified as so infrequently used that off-site storage would be desirable. At least 8% of Virginia Polytechnic Institute's collection is so rarely used that 63,000 volumes are not scheduled for reclassification. Moreover, the vast collections of the University of Virginia, the College of William and Mary, Virginia Commonwealth University, and Madison College have not been subjected to comprehensive book-weeding programs. Old Dominion University has achieved additional storage space in its crowded library through off-site storage of 56,000 volumes that last year recorded only a 1% rate of circulation.

- The stack space guide does not properly reflect the storage efficiency of microforms, nor does it encourage the substitution of microform material for hard-cover holdings when this alternative is available. The stack space guide does not encourage the sharing of library resources among neighboring institutions. For example, the ultimate character and size of the George Mason University library collection must reflect the institution's proximity to and the availability of Library of Congress resources. Similarly, the library holdings of Old Dominion University and nearby Norfolk State College should have minimum duplication, particularly in expensive reference areas.

- The reader or study space guide does not reflect the different reader space requirements of the individual institutions. For example, residential women's institutions, such as Longwood College and Mary Washington College, with excellent study accommodations in the residence halls require considerably less library study space than urban institutions, such as Virginia Commonwealth University and Old Dominion University, or Virginia Military Institute where multi-cadet barracks accommodations encourage heavy library use.

Because of the state's current level and method of funding library acquisitions programs, library space management is one of the most critical problems facing higher education in Virginia. Library holdings are swelling to such an extent that only two colleges among the public four-year institutions have not had or are not planning recent library construction. New library facilities planned for the University of Virginia, Virginia Polytechnic Institute and State University, and George Mason University alone during the next several years represent a capital outlay of approximately $46-million. Major recent, current, and planned library construction among the institutions include:

- A three-story addition is currently being added to the Virginia Commonwealth University academic campus library originally completed in 1970.
- A two-story addition to the Virginia Commonwealth University Health Sciences Division library will be requested because the $2.3-million addition to that facility in 1972 will have reached its book storage capacity by 1978.
- Old Dominion University is seeking $4.6-million for a new library and $770,000 for conversion and renovation of the existing library facility. The volume storage capacity of the new library will be exceeded within three to six years of the 1975 completion date of the planned new facility.
- Madison College is seeking $2-million for a library addition, although its most recent addition is only three years old.

- The 1963 addition to the Mary Washington College library provided very little stack space; thus, $1.7-million is being sought for a modest 38,000-square foot addition.

- Christopher Newport College plans to construct two identical $567,000 library additions within the next several years.

- A new $3.5-million library building at Norfolk State College was completed this year.

- A seven-story addition to the Virginia Military Institute library was completed in 1972, and further renovations will be made during the current biennium at a cost of $526,000.

- The Virginia State College administration anticipates that a major library addition must be completed by 1979.

- The $1.8-million phase II addition to the George Mason University library is under construction. Planning money for the $2.3-million phase III addition has been requested. Ultimately, the six-phase library facility will represent capital costs of $12-million.

- The $3-million main library at the College of William and Mary was completed in 1965, and a $1.4-million addition has been requested. Another $250,000 has been requested for renovation of expanded law library facilities. However, the law library staff anticipates that the storage capacity of this renovated space will be exhausted in a matter of only a few years after occupation.

- Four separate library construction projects are under way at the University of Virginia. When completed, these new facilities will be autonomously managed by four separate administrators. The current space devoted to library activities approximates 300,000 net square feet and an additional 145,000 gross square feet is either under construction or has been funded. Furthermore, the university anticipates a continuing short-term need for an additional 400,000 gross square feet of library space. These facilities, excluding phase II of the law library, would cost $17-million, including $10-million in state funds.

- A $7.1-million library is in the final stages of design at Virginia Polytechnic Institute and State University. At present acquisition rates, this facility will reach its designed storage capacity three years after opening. The university also anticipates requesting $10.3-million for two divisional libraries during the 1976-78 biennium.

Obviously, sufficient financial resources are not available to accommodate new facilities demand cycles that appear to be repeating themselves so frequently among the various institutions. The primary cause of facility expansion requirements is the current high rate of book acquisitions. Because acquisitions funding is addressed in detail in a later recommendation of this report, this discussion deals with the management of library space after acquisition rates have been determined.

Because existing library space planning guidelines do not adequately control space management, they must be modified. In addition to including specific guidelines for library stacks, reader, and service space, planning and evaluation criteria must incorporate effective space management programs as viable alternatives to continuous capital construction. Each institution might be required, for example, to develop a definitive plan of the long-range library space requirements and costs related to the institution's academic plan. Each submission of library capital outlay requests should be accompanied by a status report depicting the implementation progress of the institution's long-range library space plan. Specifically, the plan would include ways to avoid need for capital construction, such as:

- Book Weeding. Many thousands of volumes within the collective holdings of the institutions are duplicate copies of outdated material or other holdings of virtually no value. These materials are being retained for historical research purposes, for national recognition related to comparative size of library holdings, and for maintenance of a large collection inventory as the basis for receiving acquisition funds. Such policies should be discontinued, however, and implementation of a comprehensive and continuous weeding program should be a state-level requirement prior to approval of additional library construction. The cost of maintaining a modest but continual weeding program would be negligible in comparison with forced capital construction. Ultimately, books to be weeded from the collection could best be selected through analysis of book circulation data routinely collected through minor modification and expansion of automated circulation control systems, which are just now beginning to take shape.

- Bulk Storage. A comprehensive book-weeding program also would identify lesser-used materials of historical or research value that could be maintained through bulk storage techniques outside the main library. Off-site stored material could be shelved according to book height in narrow-aisled high-density shelving or bulk containers from which it could be retrieved within 24 hours of demand. At the University of Virginia, for example, which has 15 separate library collections, a central library warehouse facility incorporating specially designed high-efficiency stack storage probably could be justified.

- Microform Material. Libraries should acquire microform material as an alternative to hard-cover books whenever feasible. Obviously, this technique offers a considerable space advantage.

- Shared Resources. Prearranged acquisition planning among neighboring libraries, unified catalog listings, and extension of interlibrary loan services prevent unnecessary duplication and provide local access to material not owned by individual libraries. In addition, central procurement techniques could be used, and material could be stored and retrieved from a mutually convenient, central repository.

- Relocation of Nonlibrary Functions. Many institutional libraries house activities that could function just as effectively outside the library. Auditoriums, art galleries, museums, institutional offices, seminar rooms, copy facilities, audio-visual departments, and schools of library science all compete for space within the various libraries and prevent flexibility necessary to expansion of library operations. Prior to approval of new library construction, these nonlibrary functions should be removed from existing campus libraries to allow their expansion most economically.

- Reader Space. Reader or study space planning guidelines should be developed specifically for the individual needs of each institution; for example, they would reflect the heavy use of the library at urban institutions for study purposes.

Institutional library plans will provide a basis for justifying book fund and capital outlay requests and guide the coordinated and logical growth development of the various library collections and facilities. Equally important, implementation of the alternatives to uncontrolled growth would significantly enhance the long-term space capacity of existing and planned library facilities. As indicated in our reviews of the individual institutions, a minimum of $4.7-million in library capital construction costs would be avoided.

22. Provide each auxiliary enterprise manager with a monthly report of the results of operations.

Normal operations of auxiliary enterprises are expected to generate profits. To effectively direct these auxiliaries, each manager must receive a prompt and accurate monthly report to compare his results with the approved plan and to take corrective action if necessary. With few exceptions, managers of auxiliary enterprises receive entirely inadequate monthly reports--or none at all. They are therefore prevented from performing their full duties as managers.

In addition, the general administrative management of the school is unaware of the status of these activities and has no knowledge on which to base instructions that corrective action be taken. One result is a belated finding of unsatisfactory results so that it is too late to make corrections. While lack of appropriate statements are only one contributor, it must certainly have been a significant factor in the fiscal 1972 losses experienced by overall auxiliary operations at four of the 15 colleges and universities. In fact, because of poor accounting practices, more than one institution was not aware until the time of our visit that the results of their operations of auxiliaries were, in fact, a loss.

We therefore recommend that financial statements be provided promptly to each auxiliary manager showing, as a minimum, actual revenues and expenditures compared with budgeted revenues and expenditures for the month and the fiscal year-to-date. Prompt review and action based on the conditions shown in these reports should be expected to generate savings of 5% of the $50-million per year expenditures in the total system, which would have a favorable profit effect of $2.5-million.

23. Develop plans to make each auxiliary profitable.

Revenues from auxiliary enterprises must be sufficient to pay for all normal operating expenses and bond retirement needs and to provide a cash flow profit. We suggest that a proper level of profit from regular operations is 10%. According to instructions from the State Auditor of Public Accounts as long ago as 1966, these profits should be accumulated in reserves until major equipment replacements and building repair and remodeling necessitate their use.

So that such profits are indeed generated, we recommend that each school undertake a management analysis of each element of each auxiliary enterprise operation to determine minimum levels of staffing, services, utilities, supplies, normal maintenance, and equipment needs that can be attained. The needs for major maintenance, equipment, and renovation expenditures, and the timing of such needs also should be projected.

With these data, a projected statement of income for each enterprise can be prepared for each of the next five years. Based on the target profitability of 10% recommended above, rate schedules can be developed for revenues. This five-year plan is not static, but should be reviewed and revised annually so that a current projection is always available.

In addition, as the first year of the plan becomes formalized into the current budget, it must be monitored regularly during the year, to ensure that current goals are being met.

24. Develop auxiliary enterprise reserves aggregating 20% of average revenues.

Each auxiliary enterprise must develop adequate reserves from profits to pay for major equipment replacements and building renovations that become necessary as facilities age. The recommendation above covers the development of a long-range plan with an overall profitability target of 10%. With this projection as a basis, planned major expenditures for equipment replacement and building renovation should be scheduled in the years anticipated. This procedure will show the amount of reserves remaining. These reserves should be built up to an average of 20% of average annual revenues, which will provide a cushion so that unexpected adverse circumstances can be covered without destroying financial viability. If, on the other hand, major expenditure needs can be fully covered and reserves can be projected to exceed the 20% level, then and only then can consideration be given to reducing fees to a level that maintains this reserve.

25. Reduce investments in inventory.

Review of operations at several schools showed that bookstore investments in inventories are excessive. Good inventory practices, which were in evidence at some schools, show that a turnover of four times a year, which is equivalent to a three-month inventory on hand, can be achieved. We found six schools whose excess inventories in the bookstores totaled $400, 000. This excessive investment is a faulty use of cash and results in additional unnecessary expenses due to carrying costs, -- space requirements, record keeping, handling, physical inventories, obsolescense, and the interest value of the cash invested. As a general rule, the cost of these factors is equal to 20% of the inventory value per year.

Therefore, reducing inventories in only these six schools would result in a cash flow improvement of $400, 000 plus annual savings of at least $80, 000 in carrying costs.

26. Discontinue the use of contracted food service.

The Longwood College, Virginia Commonwealth University, Virginia Military Institute, Virginia State College, and the College of William and Mary all use contracted food service. Their average annual charge for this service is $513 per student, compared with a charge of $463 at schools that manage their own food service operations and hire their own employees. The two highest rates in the state are Virginia Military Institute at $600 a year and the College of William and Mary at $560. In fiscal 1972, food service sales of the schools using contract services totaled $5-million; a loss of $27,000 was sustained on these operations. Schools that manage their own food service had sales totaling $11.6-million and generated a profit of $614,000, about 5% of sales.

We therefore recommend that the five schools cited study the benefits that would accrue through managing this operation on their own. Employees are more responsive to the needs of the school than to any outside contractor. The economic benefits obviously are substantial. If these schools managed their own food service operations, the cost performance should be equal to the average of that attained by the other institutions. Because their rates are now 10% higher than those at schools managing their own food service, this would mean a total profit opportunity of $750,000. It might be more advisable, however, to accept more modest profits of 10% on sales and still reduce fees charged to the students by 5%.

27. Establish a minimum level of purchase order that does not require review or approval by the State Department of Purchases and Supply.

According to the present policy, purchase orders for less than $50 may be made on local authority. Exceptions to this rule have been made for the three largest schools: the University of Virginia, Virginia Commonwealth University, and Virginia Polytechnic Institute and State University. These three have been delegated negotiating authority to higher limits because they have developed specific purchasing knowledge and ability.

To improve efficiency by eliminating repetitive review of small purchases, we recommend that local authority be increased to cover any purchase order aggregating less than $200. This authority does not, however, change the existing requirement that all materials on which there are state contracts will be purchased from those sources.

Informal telephone bids should be obtained to cover purchases of more than $50 and purchasing files should contain suitable justification if quotations from less than three sources are obtained.

We estimate that this improved procedure will eliminate substantial paperwork at both the institutional and state level, thereby providing annual savings of about $25,000 per year. This amount is based on an average of 1,000 such purchase orders at each of the 12 smaller schools per year and a conservative saving in state and institutional level handling costs of $2 per purchase order.

### 28. Issue purchase orders for items on state contract directly to authorized vendors.

At present, the State Department of Purchases and Supply negotiates annual contracts for materials commonly required by many state agencies to obtain low prices through the advantage of large-scale buying.

Existing procedures require that the schools, and all other agencies, prepare a complete purchase order for such materials and send it to the State Department of Purchases and Supply, which reviews the documentation and submits the purchase order to the vendor. This procedure provides significant built-in delay, with the extra mail time and review procedure, before the vendor receives the purchase order. Some schools attempt to avoid this extra delay by phoning orders to the vendor, giving him a purchase order number, and advising him that he will receive a formal purchase order when it has been approved at the state level. The reasons offered at the state level for requiring this review are that the schools occasionally fill out their purchase orders improperly or may not be aware of the latest price. Such errors apparently occur only in a minority of cases and should not be a basis for delaying issuance of purchase orders for needed supplies.

We therefore recommend that each school be instructed to issue purchase orders for materials included in state contracts directly to the concerned vendor. Copies may be forwarded to the State Department of Purchases and Supply in the normal manner. If, upon review, the State Department of Purchases and Supply finds any error, the department can communicate that fact to the school for correction. The State Department of Purchases and Supply must keep each school currently advised of any change in a state contract price.

Implementation of this recommendation will be a step in the direction of contemporary management-by-exception principles, and away from the old-fashioned approach that assumes significant errors will constantly be made and therefore a detailed double-check of all clerical work is automatically required. Assuming an average of only 2,000 such purchase orders for each school each year, the saving through elimination of clerical effort and telephone expense, plus the time value of the materials gained through prompt placement of orders, should be at least $30,000 annually.

## 29. Provide that major universities issue purchase orders directly to vendors.

Under practices that have been in existence for several years, the three largest universities-Virginia Commonwealth University, Virginia Polytechnic Institute and State University, and the University of Virginia-have been authorized to negotiate completely all purchase orders up to an aggregate value of $1,000. This authority was granted because of the recognized expertise available in the purchasing departments of these schools. With that recognition, the universities should not have to submit the purchase orders so generated to the Department of Purchases and Supply for review prior to submittal to the vendors.

We therefore recommend that these schools be authorized to submit all such purchase orders directly to vendors. Copies can be submitted on a periodic basis to the State Department of Purchases and Supply if deemed necessary, or they can be retained in the school files for review by a representative of the state department. The three schools together issue an estimated 20,000 such purchase orders a year. Based on a conservative saving in review time and clerical effort of $2 per purchase order, the annual saving should be $40,000.

30. Establish a salary structure that reflects the requirement for regional differences in compensation for comparable positions throughout the Commonwealth.

During our review of personnel administration practices within the system of higher education in Virginia, we analyzed the classified employee turnover at each institution. Certain institutions have considerably more difficulty in attracting and retaining competent employees than do others. Numerous factors affect the rate of turnover, but the chief one apparently is an institution's relative proximity to urban population or industrial centers, where more lucrative alternative employment opportunities exist.

For example, employee turnover at Virginia Commonwealth University in Richmond is 40%. In Norfolk, at Old Dominion University and Norfolk State College, classified employee turnover is 43% and 120%, respectively. On the other hand, at the College of William and Mary in Williamsburg and at Longwood College in Farmville, personnel turnover is almost nonexistent.

The size of the institution is not a determining factor, as evidenced by the employee turnover at Radford College and Virginia Polytechnic Institute and State University. Both institutions are in what could be considered rural environments; however, both Radford and Blacksburg are near a large arsenal and several other major competitive employers. Employee turnover at Radford College and Virginia Polytechnic Institute and State University is 26% and 30%, respectively.

The recent upgrading of various classified positions, such as maintenance trades, custodians, and paramedical workers, certainly will enhance the ability of each institution to attract and retain qualified personnel. However, such across-the-board classification upgrading may not have been necessary. It is unrealistic to assume that the socio-economic conditions in Farmville or Lexington are comparable to those in Norfolk or Richmond. The large cities not only offer more attractive industrial and federal employer position, but are populated with numerous unreliable transients who can be recruited but perform unsatisfactorily. This condition results in the high rate of turnover that is responsible for higher training costs, dilution of supervision, and worker inefficiency. Therefore, it is critical that salaries be established at levels capable of attracting and retaining competent personnel.

The state has previously recognized regional variances, as evidenced by the salary differentials provided certain position classifications of northern Virginia (District of Columbia area) agency employees. However, salary differentials have not been established for any other region.

Therefore, the State Division of Personnel should develop a salary structure that reflects the required regional differences for comparable positions throughout the Commonwealth. The salary system should be designed so that entry position salaries are conducive to the attraction of applicants who, through proper training, can satisfactorily perform assigned duties. Subsequent rate increases should be geared to encourage self-improvement of the employee, but also be at levels of pay sufficient to successfully compete with other employers for the better qualified employees. Only in this manner can the cost of high turnover and the associated high cost of contracted services in lieu of internal capabilities to perform such services be combated. The benefit potential of reduced turnover is addressed in Recommendation 32 in this section, where it is estimated at $828,000 annually.

31. Eliminate the peer group system for establishing academic salaries.

Compensation for the academic staff of each college and university in Virginia is based upon the salary average of their respective peer groups of institutions. Thus, each institution is compared nationally with institutions of comparable size, program, and quality characteristics.

The actual salary range averages assigned to the peer groups are based on data assembled by the American Association of University Professors. As part of the salary procedure, once the salary standard based upon the peer group analysis for each institution is determined and specified, the individual institution then allocates or budgets how each individual faculty member's salary is to be affected.

Although the peer group system established salary objectives only, as opposed to obligation for funds, the concept has the following major disadvantages:

- Peer group rankings are determined on the basis of institutional consensus and often are influenced more by individual aspiration than by logical salary administration practices that reflect education, experience, position requirements, and market availability as well as the educational needs of the state as a whole. Thus, the procedures would have George Mason University placed in the same salary peer group as Clinch Valley College, which would stifle George Mason's ability to recruit faculty and staff of the background and quality necessary to develop the comprehensive university it is intended to become.

- The peer group concept provides less compensation for a professor of freshman English at Longwood College than at the College of William and Mary, who would in turn, receive less than the same position at the University of Virginia, even though the duties, responsibilities, and the level of instruction may be identical in each case. Moreover, at a large university, the course might be taught by a graduate assistant rather than a full professor.

- Although the salary average standards have not been funded to the full level of the respective peer group averages (primarily due to federal wage increase controls), some institutions have been funded more closely to their peer group objectives than others.

A better system of salary administration would base salary differentials upon teaching specialty, experience, market availability, research requirements, and level of instruction. A teacher of doctoral students certainly warrants more pay than an instructor of freshman English. However, there is little justification for paying less money to a faculty member teaching such a course at one of the small colleges than one at a university.

Therefore, the present peer group system should be replaced by a comprehensive program of salary administration that reflects the educational standards of the state and an individual institution's ability to attract qualified teachers. Although the present system penalizes smaller, less prestigious schools, these may well be the institutions requiring competitive salary structures to attract capable faculty. Also, an institution whose mission, as designated in the state master plan, requires concentration upon upper-division, graduate, and research programs would need commensurate salary provisions.

As discussed in Section III, "State-Level Management," the salary data would be incorporated into the budget formula by the Board of Regents in a manner consistent with the programs of each institution.

## Personnel -- Institutional Level

32. Reduce the high turnover rate of classified personnel through comprehensive employee termination review procedures.

Although accurate data were not available at each of the institutions reviewed, an analysis of employee termination information disclosed that seven colleges and universities had major employee turnover problems. Among these seven institutions, more than 5,800 employees terminated and were ultimately replaced during fiscal 1972. This is an employee turnover of approximately 41% of the nonacademic staffs. (These figures pertain to only salaried, classified personnel, except for Virginia Commonwealth University, Norfolk State College, and Mary Washington College, where termination data included some nonclassified hourly paid employees.) The seven institutions with the highest rates of employee turnover are as follows:

| | |
|---|---|
| Norfolk State College | 120% |
| Mary Washington College | 45% |
| University of Virginia | 45% |
| Old Dominion University | 43% |
| Virginia Commonwealth University | 40% |
| Virginia Polytechnic Institute and State University | 30% |
| Radford College | 26% |

This excessive rate of employee turnover is indicative of a very serious personnel management problem. Continuous recruitment, candidate evaluation, and reviewing efforts have a tremendous impact on the work load of personnel offices and prevent the focus of the staffs' attention on other important aspects of personnel management. Moreover, when almost four out of every ten classified employees is replaced each year, supervisors are taxed, training and administrative costs increase, and overall employee efficiency decreases.

Although excessive turnover is an acknowledged problem among so many of the institutions, only Longwood College conducts comprehensive exit interviews to determine the actual cause of employee termination.

Only in this manner can the specific causes of high turnover be identified and corrected to reduce the administrative, training, and operating costs associated with personnel replacements. Possible causes of turnover are:

- Ineffective preemployment screening
- Employee misconception of job duties, resulting from superficial interviews and lack of orientations
- Performance inadequacies of supervisors
- Uncompetitive wage scale structure
- Personal reasons unrelated to college employment.

These areas should be explored during termination processing of all employees, which would include completion of an exit interview check list to ensure the return of all institutional property. In addition, the analysis of turnover must identify trends or heavy losses in specific positions, and supervisors of these areas should be canvassed for further information. If the causes of turnover are internal and controllable by the college, corrective action should be taken. On the other hand, if they are caused by factors beyond the control of the institution, full documentation of these conditions should be reported to the state's Division of Personnel. For example, if the primary cause for employee turnover is an inadequate classified personnel wage structure, as alleged by several institutions, supporting data should be reviewed at the state level.

Since the completion of our study, two positive steps have been taken by the state that should have a favorable effect on employee turnover rates: First, the salary rates of several previously uncompetitive positions have been substantially increased, and second, effective September 1, 1973, no person can be retained on a full-time hourly basis for more than 12 months without being offered a salaried position. In the past, many institutions have used the hourly payroll as a vehicle to circumvent the formal review process required to establish permanent positions.

Every effort should be made to reduce the employee turnover rate to more tolerable levels; 10% would be an ideal level under normal conditions, but a more reasonable achievable goal might be 15%. Establishment of comprehensive termination processing, including exit interviews, would be the vehicle for achieving this goal. In addition to identifying the specific cause for termination, such in-depth interviews would monitor supervisory performance, employee attitudes and morale, as well as the competitive market for personnel.

The actual cost of employee turnover includes personnel processing and training time of both the institution's personnel function and the department being served. Notification of vacancy, advertising, screening and interviewing of candidates, and processing of paperwork and payroll forms for both outgoing and incoming personnel must all take place. Conservatively, these transactions cannot be accomplished for less than $50 per employee replaced.

Moreover, the new employee must undergo intensive training by supervisory personnel, so he rarely exceeds more than 50% job effectiveness during at least the first month of employment. At this performance level, the training cost of a typical classified worker earning $4,500 per year is one-half of the total of his $375 monthly income plus 20% fringe benefits, or $225 per rehiree.

With proper management techniques, a more reasonable turnover rate of 15% is certainly attainable. When accomplished, this elimination of approximately 3,680 personnel replacements per year at the seven institutions previously cited would net administrative and training costs savings of $828,000 annually.

33. Centralize the administration of all institutional nonacademic personnel services under single supervisors of comprehensive personnel functions.

Although the personnel functions of each institution reviewed comply with the formal requirements of the Virginia Personnel Act relative to classified employees, personnel administration at several of the colleges and universities is unstructured and decentralized or simply does not provide comprehensive services. Because no state standards define the level of services that must be offered, the degree of sophistication of the respective personnel functions is a reflection of the management priorities or philosophies of individual institutions.

Aside from the general absence of sophisticated personnel management techniques, the most common deficiency at the institutional level was decentralization of the personnel function; for example:

- Although the Virginia Polytechnic Institute and State University personnel department is one of the best in the state system and is developing many excellent programs, its overall effectiveness is substantially diluted by the direct hiring of custodial and food service workers by the buildings and grounds, dining hall, and student housing organizations, which employed 20% of the University's total full-time nonacademic work force.

- Old Dominion University allows its buildings and grounds function to recruit and screen its own personnel.

- At Virginia Military Institute, custodial and laundry workers are screened and evaluated by the buildings and grounds function.

- At Virginia State College, no bona fide personnel function exists. Individual departments are responsible for their own recruiting and screening, and the various aspects of personnel administration are fragmented among four separate administrative officers and the payroll department.

- At Mary Washington College, the buildings and grounds and dining hall operations are responsible for the recruitment and hiring of all their hourly personnel, or about 80% of the college's hourly employees. Hourly employee turnover during fiscal 1972 exceeded 108%.

- The Madison College personnel function provides no screening or testing services and has delegated the authority for checking references of applicants to individual departments.

- Responsibility for personnel administration at Norfolk State College is split between a personnel supervisor and clerks working in the office of the president. This institution is unable to fill numerous vacancies with reliable personnel and suffers from a crippling rate of employee turnover of 120% annually.

For these reasons, the personnel functions at the various colleges and universities should be centralized in one authority and directed to offer broadened, more comprehensive personnel services that enable the effective provision and management of human resources for their institutions. Also, their responsibility should be extended to include administrators who, while having academic rank, are not part of the faculty. The following services, directed toward academic and classified employees, should be offered under the direction of the respective personnel officers:

- Central recruitment and preemployment processing, including orientation on general institutional operations, policies, procedures, and benefit and compensation programs.
- Central data collection and retention of employee records, in addition to those required for payroll and benefit administration.
- A uniform, comprehensive procedure for annual performance evaluation of administrative employees.
- Evaluation and development of position specifications. This will require periodic wage surveys to determine new position salaries and to ensure that remuneration and assigned duties and responsibilities of existing staff are consistent with those of comparable positions within the institution as well as those offered by competitive employers.
- Design of a long-range plan for employee development. The personnel function should be responsible for recruiting as well as training a staff that meets the considered and well-defined long-range requirements of the institution. As part of the latter, it would arrange training programs in custodial techniques, maintenance practices, as well as business management.
- Termination processing of all employees, including completion of exit interview check lists as described in the previous recommendation.

34. Institute comprehensive programs of preventive maintenance.

Preventive maintenance (PM) is a preplanned, scheduled program of systematic facilities inspection, and routine cleaning, lubricating, and servicing of equipment. The primary objective of PM is to identify potential equipment malfunction and facilities deterioration before they occur and correct them before costly repairs are necessary.

However, with the exception of Longwood College, PM programs at Virginia's institutions of higher education are virtually nonexistent. Although several institutions conduct some PM, it usually is limited to heating, ventilating, and air-conditioning equipment. Programs are neither systematized nor documented, and their effectiveness depends upon the interest and available time of maintenance personnel. Moreover, six institutions have no PM program whatsoever. At one institution the absence of PM allowed condensation to collect in air compressor lines, resulting in permanent water damage to the temperature control system that will cost $34,000 to replace.

Costs resulting from the absence of an effective PM program are reflected not only in repair costs, downtime, and user inconvenience due to equipment breakdown, but also in the performance of the maintenance function, because emergency calls require extravagant use of manpower and prevent organized management of maintenance. PM increases the life and dependability of equipment, improves the effectiveness of the maintenance staff, avoids emergency repairs, and reduces the frequency and magnitude of costly major contracted maintenance services. Other important benefits are as follows:

- Reduction of emergency maintenance allows scheduled work to be followed to completion.
- Capital expenditures for replacement or repair of buildings or equipment ultimately are reduced.
- Costs of future maintenance requirements can be predicted more accurately.

Therefore, the benefit of effective PM procedures would substantially reduce maintenance operating costs, and their implementation should be given high priority. During fiscal 1972, the state's four-year colleges and universities expended approximately $4-million for building repairs and maintenance projects, exclusive of the maintenance support of affiliated agencies and auxiliary enterprises. We think that application of sound PM procedures would result in operating cost savings that we very conservatively estimate at approximately $286,000 annually.

Implementation of the respective institutional PM programs should proceed as follows:

- Establish an interim position of PM coordinator.
- Develop a master equipment inventory file. A task force of student helpers under the supervision of the coordinator could facilitate prompt compilation of this equipment list.

- Document the inspection and service requirements and frequencies of each equipment item. Available owners manuals, equipment manufacturers specifications, and equipment data plates are valuable sources of such information.

- Estimate annual PM man-hour requirements by means of available predetermined performance standards.

- Establish an automated PM schedule that generates balanced weekly PM routines.

- Maintain maintenance cost data by item of equipment.

- Assign the ongoing PM program to the maintenance function's planner/scheduler once it is operational and eliminate the PM coordinator position.

### 35. Establish systematic procedures for planning, scheduling, and measuring performance of maintenance operations.

Systematic work planning and scheduling procedures are a critical part of maintenance management. They provide for organized and rapid accomplishment of critical repairs, for complete PM inspections and other recurring work, and for effective utilization of manpower. This results in a coordinated and low-cost operation not otherwise attainable. However, maintenance planning among the institutions was consistently found to be very rudimentary and incapable of optimizing the use of manpower. Formal work order systems, where they existed, were designed primarily to capture cost data for reimbursable renovation and alteration projects. Project cost estimates and analysis of craft backlogs for unreimbursable projects and routine maintenance were rarely made.

Although several schools utilize dispatchers for receiving emergency telephone requests for maintenance assistance, and major multicraft projects are informally coordinated among supervisors, most maintenance craft shops operate rather autonomously, thus duplicating many maintenance administrative functions that could be effective if done centrally. Because records of maintenance backlogs do not exist, work loads among the trades are often unbalanced and the overall efficiency of the department suffers. Furthermore, this unstructured approach to planning has hampered the formulation of priorities, and on several campuses, administrative pressures have postponed critical maintenance in favor of major renovation projects. Moreover, the present methods of planning and scheduling maintenance provide supervisors with no quantitative means for evaluating the performance of their personnel.

Therefore, in order to optimize the ability of the buildings and grounds functions to plan the maintenance operations of their institutions, each should create a new position, entitled planner-scheduler, which would be responsible for providing centralized comprehensive work planning and scheduling for all maintenance activities utilizing the latest maintenance management techniques. In practice, the planner-scheduler would receive all requests for work (small and emergency jobs received by phone can be documented by a clerk), clarify work requirements, define craft responsibilities, and estimate the work content with respect to total man-hours. These requests then must be ranked with respective predetermined priority classifications, such as emergency repairs, safety projects, PM, major new projects, and routine maintenance.

Once the work has been classified and estimated, maximum utilization of manpower could be achieved by dividing the schedule into fixed and variable segments. The fixed schedule compromises predictable, periodically recurring work, such as PM, to which a portion of the crew must be committed on a daily basis. The man-hours required for this work, deducted from available maintenance hours, equal the true time available for daily scheduling of emergency and other nonrecurring work, which must be evaluated in terms of priority and due date. As routines are established and preplanning efforts are improved, the ratio of fixed-schedule hours to variable-schedule hours should increase.

Implementation of proper organization and systemized work planning and scheduling has substantially increased the effectiveness of many maintenance operations and reduced their maintenance labor costs by as much as 20% to 30%. However, even greater savings can be achieved through application of measured standards for maintenance work. Universal Maintenance Standards (UMS) are comprehensive, fully validated compilations of data that give an accurate standard time for performing maintenance jobs. It is not uncommon for maintenance labor costs to be reduced by as much as 40% to 50% when UMS are applied.

If UMS are utilized, the proposed planner-scheduler also would function as a UMS analyst. Rather than estimating the work content of maintenance jobs, he could accurately predict, by means of UMS, an engineered standard time. As a result, planning and scheduling efforts would be more accurate, serve as a gauge of departmental and craft performance, and form the basis for justifying changes in methods and tools. In industry, an analyst can provide work for 30 to 50 mechanics and tradesmen. In a campus environment, without specialized production equipment, one competent analyst may well be able to cover the entire maintenance department.

A UMS program and its elements of standard data, time formulas, benchmark jobs, and spread sheets are available from a variety of sources. The Maintenance Control Division of the University of Virginia buildings and grounds department is experimenting with the use of U. S. Navy maintenance standards. At Virginia State College, the Director of Buildings and Grounds plans to implement the use of U. S. Army Post Engineer maintenance standards. The Longwood College physical plant department also is interested in applying maintenance standards to the conduct of department operations.

The coordination of the development and application of UMS as well as the training of UMS analysts should be accomplished centrally through the proposed Board of Regents administrative training organization.

Implementation of maintenance cost performance improvements should proceed as follows:

- The position of planner-scheduler should be created by each institution.
- The Board of Regents should provide central training for them in the application of UMS.
- All maintenance requests should be routed through the planner-scheduler.
- A time standard for each maintenance project should be determined.
- An accumulative maintenance man-hour backlog by craft should be maintained.
- The maintenance schedule should be planned in conjunction with the maintenance superintendent with respect to job priorities and craft backlogs.
- Maintenance performance should be measured by comparing actual assignment completion times to the predetermined time standards.

We conservatively estimate that the improved effectiveness and utilization of manpower resulting from systematic planning and scheduling techniques based upon UMS would result in savings equivalent to 20% of institutional maintenance labor costs. These savings, as identified in the individual institutional management reviews, would provide, including fringe benefits, maintenance labor cost savings of approximately $918,000 annually.

36. Centralize the responsibility for custodial services, and institute improved techniques for its management.

Custodial services are by far the costliest category of institutional physical plant expenditures. Janitorial costs at Virginia Commonwealth University alone during fiscal 1972 accounted for more than 38% of total physical plant expenditures. During this period, custodial services at Virginia Commonwealth University and the University of Virginia totaled more than $4.3-million. Although the magnitude of janitorial operations is significant, a disproportionate amount of emphasis has been placed on its management, as evidenced by the disparity of cost performance experienced among the various institutions.

Although it is difficult to compare costs between organizations because of the variety of cleaning requirements and the inconsistency of available data, gross indexes of cost performances can be obtained by comparing the ratios of custodial salaries to square feet of area maintained.

Such a determination of current custodial cost performance was made at each institution. Among the institutions, the cost of janitorial services ranges between $0.15 and $0.54 per square foot. The median cost is $0.29 per square foot. This is comparable to the janitorial cost performance at other public institutions of higher education that utilize unsophisticated means of planning and controlling their custodial functions.

Custodial cost performances also vary within individual institutions. At one university, where two autonomous custodial functions exist, housekeeping costs vary between buildings by as much as $0.20 per square foot.

A second university operates four separate housekeeping functions that range in operating costs between $0.36 and $0.87 per square foot. A third institution has six autonomous housekeeping functions, each with its individual quality standards and cost performance. In total, five institutions have divided authority over campus housekeeping operations.

Uncoordinated control of custodial services results in unnecessary duplication of effort and prohibits economies normally associated with centralized management, such as closer supervision, more comprehensive training, manpower flexibility, specialized work assignments, and greater efficiency, which are essential to properly control costly janitorial operations.

All custodial functions at each institution therefore should be centralized under the control and direction of the buildings and grounds department, which possesses the highest level of maintenance know-how as well as the experience needed to plan and supervise the work of large numbers of people. Centralization would maximize economies through implementation of the following custodial management tools: custodial task-oriented teams, predetermined time standards, and comprehensive training.

The majority of custodial managers assign individual custodians the total cleaning responsibility for specific buildings during the daytime hours, when the facilities are least accessible for efficient cleaning. This practice inherently results in an imbalance of work loads between janitors and inhibits their effective supervision.

Assignment of custodial teams to functional tasks generates repetitive routines, develops cleaning specialists, and facilitates the application of predetermined time standards. Moreover, custodial teams could work when facilities are most accessible for cleaning; that is, on residential campuses part-time employees could work an early evening shift, while full-time employees would work a split shift, spending afternoons in the residence halls and evenings in the academic buildings.

The planning, scheduling, and measurement of the proposed task system should be accomplished by means of predetermined time standards as basis for allocation of personnel, distribution of work loads and custodial performance. These standards have been developed for almost every aspect of custodial activities under a broad range of conditions. With little effort, these standard data can be centrally tailored for institutional use by specially trained personnel competent in "methods time measurement" techniques. Institutional personnel then could be trained in the application of these standards by the Director of Training of the proposed Board of Regents.

Efforts to improve the management of custodial.operations would not be complete without a handbook. It should be used as a training manual for new personnel to acquaint them with their equipment and performance standards and as a valuable reference document for work methods and standing operating procedures.

This recommendation is not intended to eliminate the presence of all custodians from buildings during normal working hours. A skeleton campus force must be on hand to provide on-call janitorial service. One man per large facility should be adequate. Moreover, each facility (academic, auxiliary, or dormitory building) should appoint a staff member through which to funnel complaints regarding quality of custodial service. This coordinator would maintain a direct line of communication with the executive housekeeper and key custodial task force supervisors.

Implementation of custodial cost performance improvement should proceed as follows:

- Centralize all custodial activities under the respective buildings and grounds departments. Because their assigned duties take them throughout the facilities of the physical plant, custodians can serve as a valuable inspection arm of the PM program, providing needed information on the general state of repair of facilities to the director.
- Eliminate assignment of janitors to individual buildings in favor of supervised task-oriented custodial teams.
- Utilize predetermined time standards for development of schedules and assignment of work loads.
- Schedule cleaning of facilities during hours of maximum accessibility.
- Provide each worker with a comprehensive custodian's handbook.

Where custodial operations are informally organized without measured work assignments, custodial performance rarely exceeds

60% to 70% efficiency (100% represents an average person working at a normal rate, 100% of the scheduled day). Based on the unstructured inefficient methods of janitorial operations observed at the majority of institutions, establishment of modern management techniques should provide a saving of at least 15% of the combined salaries, wages, and fringe benefits committed to custodial operations at Virginia's four-year public supported colleges and universities. As identified in the backup file for each institution, improved custodial management should provide state-wide savings of approximately $1,254,000 annually.

37. Utilize operating reports for improvement of maintenance management.

Management information is a key element in controlling maintenance operating costs. However, throughout our review of the physical plant operations of Virginia's public institutions of higher education, not a single adequate system of data collection and use was found.

Most institutions utilize a work order form for requesting and authorizing maintenance services. A few institutions utilize the work order form to collect building or cost center data from which auxiliary enterprise facilities can be charged for maintenance services. However, the work order systems of several institutions are very elementary, operating costs are not collected or analyzed, and managers have no basis for determining the effectiveness of the maintenance function.

Furthermore, the inadequacy of the cost-identifying apparatus at several institutions, in effect, results in a subsidy of auxiliary enterprise operations that amounts to many thousands of dollars annually.

The establishment of a comprehensive maintenance management information system not only would properly identify operating costs that would eliminate auxiliary enterprise subsidies, but more important, it would provide maintenance managers with the information necessary to effect maintenance operating costs.

Because the key document for any system of maintenance control is the work order, the establishment of an effective work order system is the essential first step in the real control of maintenance costs. A comprehensive work order form that is helpful in planning and controlling several aspects of maintenance operations consists of:

- A request for the work to be performed and space for a description of the trouble.
- Space for planning the repairs and estimating the labor and materials required.
- Authorization and instruction on when the job is to be performed.
- A parts requisition for drawing parts and posting inventory records.
- Space for recording the actual labor and material costs required to complete the work.
- Space for posting equipment records and control reports.

For repetitive work, standing orders that are effective for fixed periods can be generated. In emergencies, the job may be started, but the paperwork must follow before the time spent can be properly charged.

By means of the work order device, the overall maintenance work load by craft can be identified and scheduled in a manageable manner. Furthermore, because man-hour and material estimates are an integral part of the work order, maintenance personnel are apprised of the level of performance expected of them by supervisors.

Such systematic work planning and scheduling procedures are a critical part of maintenance management. They allow objective determination of maintenance priorities, facilitate better utilization and coordination of manpower, and provide the data necessary to analyze maintenance costs. In addition, the work order form can be utilized to collect critical operating information that can be distributed to maintenance managers in the form of the following reports:

- Maintenance Backlog Report. This report, issued daily, depicts the outstanding work load of the department by craft. The estimated labor requirements of newly issued work orders are added to the backlog, and actual labor requirements--as identified by completed work orders--are subtracted. This report prevents craft overloading, a situation by which routine jobs develop into emergency jobs. The backlog report also is a valuable tool in determining whether to use outside contractors, schedule overtime, or request additional personnel.

- Craft Performance Report. On a weekly basis, the proposed planner-scheduler compares actual craft performance with estimated man-hours to determine a gross percentage of performance efficiency. As the planning and scheduling systems in the overall maintenance operation become more routine, the institutions should adopt Universal Maintenance Standards (UMS), as suggested previously. In this way, actual performance could be compared against standard hours developed by industrial and maintenance engineers to obtain a precise measure of actual maintenance performance efficiency.

- Time Distribution Report. This report identifies, in terms of percentage, the actual time devoted to the various types of maintenance: emergency, preventive, routine, and the like. A good index for evaluating overall planning and maintenance performance is the monthly percentage of these classifications of work related to total maintenance man-hours.

- Monthly Operating Report. This report is utilized to compare the monthly average and month-by-month cost performance (by maintenance category) from previous years with current performance. Graphical presentations are particularly useful in portraying trends. Historical cost performance comparisons should be made by cost centers, that is, various buildings and major operating systems within them, as well as organizational elements within the maintenance department. Moreover, this information should be shared with individual department supervisors so that they can maximize their contribution to the cost performance of the overall maintenance effort.

- Equipment Maintenance Record Card. This report accumulates the total maintenance cost for individual items of equipment, based on the completed work order. These record cards are an integral part of the PM system, so many equipment cost items will be generated from the standing work orders that support a routinely scheduled but comprehensive PM program. Such record cards provide critical information for decisions on equipment procurement and replacement.

Although several institutions have attempted to generate some maintenance costs by cost center, the success of these programs has been very limited because considerable efforts of departmental clerical personnel are absorbed in manually posting these historical files. Therefore, the plans for development of common systems of management information previously recommended in this report should include a program for the establishment of an automated maintenance management information system. This program should put to use existing historical maintenance data and facilitate the collection, analysis, and distribution of future data obtained from the maintenance source document, the maintenance work order form.

38. Provide library staff positions on the basis of actual operating need.

The libraries of Virginia's four-year public institutions of higher education are currently staffed with approximately 720 full-time employees, as shown in the table depicting various library statistics on the following page, and about one-third are professional librarians. This permanently authorized staff is supplemented by numerous part-time student and nonstudent employees who represent the full-time equivalent of more than 200 persons. The institutions' combined cost for library salaries and wages was approximately $5.9-million in fiscal 1972.

Beginning this year, the budget manual has provided a staffing formula to determine levels of library staff exclusive of part-time hourly help to be requested for 1974/75 and beyond. These staffing formula provide one professional librarian for each 300 annual (regular session plus summer session) FTE undergraduate students and one professional librarian for each 100 annual FTE graduate students. In addition, for each professional librarian authorized by application of these ratios, two support staff personnel are allowed.

The cost implication of fully funding the institutions on the basis of the new staffing formula is staggering. On the basis of the formula,

# LIBRARY STATISTICS

| | 1971/72 Library Expenditures | Full Time Staff | Student-Faculty Patrons | Staff Formula Requirement | Cataloging Cost Per Volume | Volumes Projected by Fiscal 1974 | Clapp-Jordan Volume Requirement | Volumes Needed (6–5) | Percentage Difference |
|---|---|---|---|---|---|---|---|---|---|
| Christopher Newport College | 137,074 | 13 | 2,600 | 27 | 6.32 | 69,800 | 88,800 | (19,000) | (21.4%) |
| Clinch Valley College | 121,212 | 7 | 800 | 9 | – | 63,500 | 68,900 | (5,400) | (7.8%) |
| George Mason University | 374,720 | 22 | 5,300 | 60 | 4.60 | 122,000 | 173,000 | (51,000) | (29.5%) |
| Longwood College | 216,127 | 20 | 2,500 | 24 | 11.25 | 150,700 | 117,300 | 33,400 | 28.5% |
| Madison College | 403,903 | 23 | 6,000 | 71 | 4.43 | 198,900 | 227,400 | (28,500) | (12.5%) |
| Mary Washington College | 274,560 | 14 | 2,400 | 21 | 4.06 | 243,000 | 102,500 | 140,500 | 137.1% |
| Norfolk State College | 443,726 | 29 | 6,200 | 89 | 5.79 | 154,800 | 164,300 | (9,500) | (5.8%) |
| Old Dominion University | 880,015 | 42 | 11,000 | 124 | 2.00 | 405,400 | 398,500 | 6,900 | 1.7% |
| Radford College | 297,410 | 13 | 4,000 | 26 | 6.70 | 159,300 | 161,300 | (2,000) | (1.2%) |
| University of Virginia | 3,336,666 | 248 | 13,500 | 231 | 10.10 | 2,577,700 | 2,026,100 | 551,600 | 27.2% |
| Virginia Commonwealth University | 1,024,170 | 76 | 16,000 | 165 | – | 315,200 | 891,500 | (576,300) | (64.6%) |
| Virginia Military Institute | 254,350 | 21 | 1,200 | 17 | 2.94 | 221,200 | 77,300 | 143,900 | 186.2% |
| Virginia Polytechnic Institute and State University | 1,969,348 | 105 | 16,000 | 170 | 6.93 | 888,900 | 1,604,700 | (715,800) | (44.6%) |
| Virginia State College | 275,973 | 21 | 4,000 | 36 | 5.50 | 171,900 | 191,200 | (19,300) | (10.1%) |
| The College of William & Mary | 1,199,930 | 66 | 6,500 | 81 | 3.46 | 706,000 | 408,700 | 297,300 | 72.7% |
| | 11,209,184 | 720 | 98,000 | 1,151 | – | 6,448,300 | 6,701,500 | (253,200) | (3.8%) |

for the first year of the 1974/76 biennium, an additional 431 permanent library positions would be required. This state-wide library staff increase of 60% would increase library personnel costs, including fringe benefits, among the institutions by about $4.24-million annually. Application of student-to-library staff ratios to enrollments projected for 1982 would require establishment of about 715 new library positions, an increase of 100% over current staffing levels. This would increase current library personnel costs by $7-million annually.

In addition to the economic ramifications of the new library staffing formula, there are also logistical problems. For example, the 48 new positions requested by one college cannot possible be accommodated in the existing library because the technical service areas of that facility are already overcrowded. Several other institutions are also grossly affected by the staffing formula, as indicated in the table which projects increases at four institutions of 60, 65, 82, and 89 persons, respectively. Only two institutions would not qualify for additional staff. On the basis of the formula, one institution has four excess staff members and the other, 17.

Library authorities often take library expenses as a percentage of total institutional educational, and general expenditures to measure adequate support of libraries. Various sources, including John Dale Russell, the Office of Education, and the Committee on Standards of the Association of College and Research Libraries, cite as typical library function expenditures as 5% to 6% of their respective institution's educational and general expenditures. During fiscal 1972, the combined library expenditures of Virginia's public institutions were 6.4% of their educational and general expenditures. However, if the libraries were staffed in accordance with the new staffing formula, library expenditures would increase to 8.6% of current educational and general expenditures.

Further evidence that Virginia's student-to-librarian ratios are liberal can be demonstrated by comparison with those in Texas, which has utilized a student-to-librarian ratio that changes incrementally according to enrollment size. Applying the Texas formula to the enrollment at one Virginia university results in a requirement for 30 professional librarians, as opposed to 77 librarians determined by the Virginia formula.

In addition to being too liberal, Virginia's library staffing formula is much too rigid and simply does not address the institutional difference in methods and scope of operations. The public and technical services of a research library of a major university are considerably different from those of a small special-purpose institution.

The graduate-level reference assistance and complex original cataloging associated with research libraries as opposed to the predominant acquisition of standard reference material that is routinely precataloged by less comprehensive libraries, is evidenced by cataloging cost differentials, as shown in the table. These differences, which range from a low of $2 per volume to a high of $10.10 per volume between two universities, must be addressed in any library staff-budgeting process. Therefore, the present library staff-budgeting formula should be replaced by a formula that reflects the libraries' actual work load, rather than the student enrollment of the institutions.

A work load analysis of library operations is a study within itself and was outside the scope of our review. However, we recommend that such a study be conducted to determine the actual work load of the various library functions. The objective would be to establish quantitative criteria for staffing each of these functions. Such an approach has been used in California, which provides one technical service professional librarian for: each 1,600 volumes added, each 4,500 volumes mended, each 1,500 volumes discarded, each 25,000 goverment documents received, each 50,000 periodicals received, each 200,000 volumes sorted and shelved, each 2-million volumes of shelf reading, and so on. Public service librarians are provided on the basis of total public service points multiplied by the number of manned hours per week multiplied by 1.24 (for related work) divided by 40 hours per week.

It is not our intent to endorse California's library staffing formula, because a comprehensive work analysis of library operations can undoubtedly determine staffing criteria with even greater precision. Such criteria, for example, might distinguish between original cataloging of foreign language material and normal English language material routinely percataloged by the Library of Congress.

We think that Library staffing requirements, based upon comprehensive work load analyses of the various library functions, would demonstrate that the existing library staffing formula which would increase total current state-wide library staff positions by 60%, is much too liberal. Therefore, the results of the work load analyses should be incorporated into the proposed system of formula budgeting as the required criteria for library staff planning.

Based on our analysis of library operations, until more quantitative measurement of operating needs can be identified, the number of institutional library positions should not be increased by any more than they can individually justify. Furthermore, institutions that have proportionately more library staff members than their sister institutions would receive very few if any new positions. Providing librarians could justify a very liberal state-wide increase in library positions as large as 10%, this would be equivalent to funding the new library staff formula at about 17% of its potential cost. This would obviate the need for 359 new permanent library staff positions and avoid, including fringe benefits, salary costs of approximately $3.53-million annually.

39. Fund library book, periodical, and document acquisitions on the basis of academic program support requirements.

Altogether, the libraries of Virginia's public four-year institutions of higher education serve approximately 98,000 library users through a combined collection that is projected to reach approximately 6.45-million volumes by the end of fiscal 1974. During fiscal 1973, the institution's expenditures for library materials exceeded $5-million.

The funding of acquisition programs of individual libraries are based on a comparison of projected library holdings with a collection size determined to be adequate by application of the Clapp-Jordan formula, which has established theoretical volume quantity criteria on enrollment size, faculty strength, and the number and levels of fields of concentration offered by the institution. Libraries with collections of greater size than the theoretical quantitative level of adequacy, as identified by the formula, are funded on the basis of actual volumes held; specifically, the institution is provided funds equal to 5% of the volumes projected to be on hand at the end of the current year multiplied by $15 per volume. Libraries with collections with less than the minimal number of volumes identified as adquate by the formula are funded on the basis of $15 per volume multiplied by 5% of the number of volumes equal to the theoretical level of adequacy. Thus, the former and latter calculations establish the "standard maintenance" allowances requested by libraries with collection sizes deemed adequate and deficient, respectively. In addition, libraries with theoretically deficient collections may request more funding to eliminate quantitative deficiences on the basis of $15 per volume times the number of volumes below minimal adequacy.

The current method of library resource funding is superior to the budget technique used in the previous biennium for two reasons: First, the 5% increase applied to holdings is more conservative than the 5%, 6% and 7% graduated increases previously requested by undergraduate, graduate, and doctoral institutions, respectively, and second, allowing theoretically deficient libraries to request standard maintenance allowances based upon minimal adequacy as opposed to actual holdings reduces theoretical deficiencies more rapidly.

Nonetheless, existing methods of library resources budgeting do not reflect the actual educational program requirements of the institutions. On the contrary, present library resource budgeting standards appear to be considerably influenced by the present library philosophy that equates the value of library resources with the number of volumes in the collection. This philosophy apparently originated within the comprehensive institutions where a prevalent interest in national preemminence as measured by collection size is evident. In this regard, the Clapp-Jordan formula for estimating collection deficiencies has become a convenient mechanism for extension of this policy.

Although they appear to be generous, the formulas for minimum adequacy developed by Verner W. Clapp and Robert T. Jordan do attempt to identify the principal factors affecting academic needs for books and to ascribe suitable weights to each factor. The value of a library collection can be equated to its size, if each addition has been carefully considered and a comprehensive weeding program to withdraw obsolete material is conducted on a continuing basis. However, when haphazard methods of book selection are evident and when undetermined quantities of obsolete books are maintained in these collections, any attempt to equate collection size with the ability to support academic programs is totally unrealistic.

In regard to the validity of their formula, Clapp and Jordan have stated that "Minimum adequacy can be achieved only if all material is carefully chosen with a view to the purpose to be served, and the weeding program is as active and realistic in relation to needs as is the program of acquisition." Furthermore, the Standards of the College Delegate Assembly of the Southern Association of College and Schools also requires continuous weeding of library collections.

However, under present methods of funding, libraries with collections above the minimum quantitative standards receive funds on the basis of year-end projected and unweeded collections. Thus, librarians without deficits would be foolish to remove unneeded material from their holdings because it would adversely effect the base upon which funding is calculated. For example, several institutions have many such volumes within their collections. Since funds are authorized on the basis of actual holdings, removal of these materials from the collections would cost the libraries thousands of dollars in acquisition funds.

Therefore, the state should discontinue funding library acquisitions on the basis of books held. Not only does this fail to address the qualitative ability of the collection to support its institution's programs, but the obsession for quantitative growth discourages weeding, results in extravagant use of library space, and leads to premature need for additional capital construction.

Appropriations should be made solely on the basis of support requirements of the academic programs offered. Conversely, approval of new academic programs should be granted only after the cost of supporting library resources have been identified and determined to be consistent with the state's educational objectives and its ability to fund them.

If library directors can demonstrate that financial support beyond the present level is required after comprehensive and ongoing evaluations of library resources have been made with respect to recent bibliographies and other standard guides for the various concentrations; they should be so provided. Funding should be based on actual requirements, not historical precedent or arbitrary formulas. Moreover, the investment of these funds in additional library resources should be protected by well-considered acquisition selections and weeding programs.

Until precise library book, periodical, and document acquisition funding standards can be developed on the basis of actual academic program support requirements, an interim funding criteria must be utilized.

However, funding on the basis of a percentage of collection holdings provides very generous support for five institutions with collections that are currently 27%, 29%, 73%, 137%, and 186% greater, respectively, than the theoretically adequate level (see table on page IV - 87). Because funding on this basis widens the gap between adequate and deficient collections and discourages vitally needed weeding and because the Clapp-Jordan formula has been accepted as the Commonwealth's criteria for establishing the quantitative adequacy of collections, it is logical that standard maintenance allowances for all institutions be calculated in the interim on this basis. Establishment of the state-wide standard maintenance allowance based upon the Clapp-Jordan formula would reduce the number of volumes required during the next biennium by about 59,000 and save approximately $880,000 annually.

In addition, the current funding standard of $15 per volume should be modified to reflect the actual acquisition cost of the various categories of library material required at each institution. For example, the flat $15 per volume standard does not reflect the cost differential between books, periodicals, and microforms, or their required mix. The educational objectives of some disciplines require a greater dependence upon expensive serials and continuations, which escalate the per-volume cost. Likewise, the institutions emphasizing lower-division offerings normally require fewer and less expensive reference materials than do the institutions with broad graduate, professional, and technical programs.

The existence of per-volume institutional cost differentials were verified in a 1971 study by one state librarian who determined that the cost per volume for 13 state-supported colleges and universities ranged between $4.15 per volume to $13.18 per volume. The average cost was $10.01 per volume. In effect, institutions requiring less expensive material are overfunded at the expense of institutions needing the most support. Because the Division of Budget has included within the 1974/1975 library resource budgeting documents a request for historical per-volume cost from the institutions, data will be forthcoming to reevaluate this per-volume cost standard.

## Academic Resources--Institutional Level

### 40. Utilize improved purchasing techniques for the acquisition of library materials and binding services.

Virginia's 15 public institutions of higher education spend approximately $5-million annually for library materials that include books, periodical and serial subscriptions, related materials, and binding services. Although periodical subscription rates are essentially fixed because of limited sources of supply, books (particularly trade books) can be acquired from a variety of sources at various discounts. Library material acquisition costs over which technical service librarians can exercise some control are thus limited to book material and bindery services, which cost the institutions a total of about $3-million in fiscal

1972. Unfortunately, the combination of the book publishing and distribution industries complexities, acquisition budgets of enormous size, and the general absence of purchasing expertise among acquisition librarians have prevented the knowledgeable and efficient use of available funds.

To simplify the acquisition process, most libraries depend heavily on the wholesaler or jobber. A jobber is a book dealer who buys new books in large quantities from multiple sources, accumulating a representative stock and giving libraries an opportunity to acquire the books of many publishers at a discount with a single order form, invoice, and payment. Several of the libraries have provided jobbers with a profile of their institution's academic offerings and the supplier is instructed to deliver, for inspection and approval, all new publications that are available in the fields that match the institution's profile. These blanket order approval plans are used primarily at institutions with extremely large acquisition budgets. Although this technique simplifies the ordering process, many volumes are added to the collection that would not normally have been selected. On the other hand, at several institutions, this streamlined ordering method is almost mandatory if their very large acquisition budgets are to be expended.

In any event, there appears to be little inclination among acquisitions librarians to reduce acquisition costs by comparing discounts of alternative suppliers, entering into joint procurement ventures or resource sharing with sister institutions, or by analyzing existing procurement practices. Each of these deficiencies must be eliminated to enable optimum use of available acquisition funds.

First, in order to apply effective techniques to the acquisition function, a comprehensive analysis of material available and its sources must be made. One source of this data would be the data bank of Virginia Polytechnic Institute's automated acquisitions record-keeping system. That institution's systems librarian should coordinate the development of a periodic report for use by all of the librarians in the public system. In this way, valuable procurement information would be available for analysis by acquisition librarians. This report should provide:

- A breakdown of library materials, listing of materials by types: trade books, educational books by subject, out-of-print books, reference materials, microforms, and the like. This list should provide an accurate profile of the collection and an indication of future needs.
- A master list of vendors, identifying each source of supply by type of book obtained, volume purchased, percentage of discount obtained, and other vendor performance criteria, such as percent of orders filled, timely delivery, and general quality of service.

Through techniques of model simulation, this information could be applied to the specific procurement needs of each institution and should provide the basis for selecting vendors and identifying common orders that are conducive to accumulation as single orders that take full advantage of volume purchasing.

Second, the libraries should be required to seek competitive bids for the procurement of book materials and bindery services. Several institutions depend exclusively on one or two jobbers for almost all their acquisition needs. One large library divides approximately $680,000 worth of book acquisitions between two jobbers and obtains another $116,000 through approval plans offered by several jobbers. Another institution expends $190,000 for books through two principal jobbers. Moreover, at most institutions, the selection of vendors is traditional and dependent on past service rather than present discount performance.

In recent years, book suppliers have demonstrated an increasing willingness to compete for lucrative acquisition budgets of colleges and universities. It is inconceivable that more favorable discounts could not be achieved by inviting respected jobbers with good service records to bid on these large acquisition programs. Therefore, competitive bidding should be required for the acquisition of books and bindery services.

Third, acquisition librarians should aggressively pursue cost savings and cooperative ventures with other libraries. Thus far, cooperative book purchasing between institutions has been conducted through the sponsorship of the State Council's Library Advisory Committee with special state-appropriated funds. The institutions, individually and collectively, should aggressively initiate cooperative book-purchasing ventures, even without state sponsorship, because a considerable savings potential exists.

For example, one jobber offers an across-the-board 40% discount on all trade books plus a $2.65 service charge for every title ordered. Only a 25¢ per volume service fee is charged for each duplicate copy of the title ordered. Thus, for every trade book common to the needs of more than one institution, $2.40 per copy would be saved. Libraries with similar programs, such as education and social sciences, could combine purchases of basic core books for such programs and achieve volume discounts. Moreover, neighboring institutions could jointly acquire expensive reference books or complete sets of valuable but rare serials and the like.

As identified in the backup file on the individual institutions, improved procurement techniques -- analysis of the acquisition function, establishment of competitive bidding, and cooperative ventures for the purchase of library materials -- would provide a considerable saving of available acquisition dollars. We very conservatively estimate that application of these techniques would provide an annual saving of approximately $314,000.

### 41. Institute programs of library space management.

The tremendous increase in the acquisition programs of institutional libraries across the state has precipitated the present widespread expansion of library facilities. Only two of the 14 major institutions reviewed have not recently had or are not currently planning expansion of library facilities. As these ambitious acquisition programs continue, the large investment in capital construction can be optimized only by effective programs of library space management.

Therefore, as discussed in a previous recommendation, each institution must develop a long-range plan for the development of its library resources. These plans should outline a program of implementation of viable alternatives to continuous capital construction, such as ongoing comprehensive book-weeding programs to eliminate obsolete materials, off-site bulk storage of little-used material of considerable research value that prevents weeding, layout modifications to increase utilization of available space, expanded use of microform material whenever possible, avoidance of unnecessary duplication of material available at nearby institutions, and the removal of nonlibrary activities from library facilities. Positive action in these areas at the institutional level would extend the effective service life of existing and future library facilities.

42. Encourage the development of cost-saving library consortiums.

Library technical service functions have long been the target of systems analysts for the cost-saving application of automated systems of acquisitions, cataloging, and circulation control, as well as the accounting of the library's financial activities. The existence of these potential savings has led to the development of cooperative agreements between groups of regional institutions of higher education throughout the nation. Known as consortiums, these groups are dedicated to the following purposes:

- Provide, through cooperative acquisition, materials beyond the reach of individual component libraries.
- Achieve economies in the use of resources, both human and material.
- Reduce needless duplication of resources, especially of expensive and little-used materials.
- Facilitate sharing of materials among members of the group.

The consortium is a particularly effective mechanism for reducing the systems development costs that would be prohibitive on an individual basis. For example, the Ohio College Library Center, in Columbus, which provides a central computerized cataloging system for some 60 colleges and university libraries has reduced costs by mechanizing and centralizing many library procedures. In addition to preventing the unnecessary duplication of automated systems, development, and hardware, central cataloging also generates a data base from which an optimum balance of duplicate holdings can be monitored on a state-wide basis.

The Ohio Center provides these cataloging services to member institutions at a cost of $2. 10 per volume. This is substantially lower than the cost performance achieved by Virginia institutions, which range between $2. 00 per volume to $11. 25 per volume. The mean cost was determined to be $5. 70 per volume.

The Association of Southeastern Research Libraries has proposed the establishment of a similar library network in the Southeast. The association has been working closely with Ohio Center representatives and has obtained a tentative commitment from them to share its existing data base in the replication of computer software packages and hardware configurations, as well as to provide training for the association's systems and programming personnel at the Columbus, Ohio, site. Moreover, 55 colleges and university libraries within the 10 surrounding Southeastern states have expressed interest in the proposed network.

Although the network is in the preliminary stages of development, each library in Virginia's four-year public institutions of higher education was requested to make a participation commitment by January 1973. Network institutions were then assessed a first-year membership fee, equal to 1% of acquisition funds spent by their libraries. However, due to a breakdown in communication between the Virginia libraries' network feasibility study committee (comprising several institutional library directors) and the state's remaining library heads, as well as some unresolved questions on long-range network cost implications, only four or five institutions obtained membership in the network.

The potential economies of centralized technical services cannot be ignored. Moreover, if centralized cataloging becomes a reality, automated acquisitions, circulation control, and financial management programs will also be implemented. In the event that the cataloging cost performance of the proposed Southeast Library Network would only split the difference between Ohio Center and state library cataloging costs per volume, substantial savings would result. As identified in the backup file, such an improvement in the cost performance of the libraries would result in cataloging department personnel costs reductions, including fringe benefits, of approximately $376,000 annually (including the membership fees of each institution). Therefore, each institution should encourage the development of the proposed network, and nonmembers should carefully reevaluate the potential benefits of participation. Participation would not only substantially reduce existing cataloging staff but also eliminate large cataloging backlogs now existing at several institutions.

### 43. Centralize the control and management of audio-visual/communications media resources.

According to a recent survey sponsored by the Virginia Public Telecommunications Council, Virginia's four-year public institutions of higher education own audio-visual equipment for which they have expended state and federal funds equal to more than $3-million. However, because the survey results do not include equipment such as film, slide, and opaque projectors, the full value of all audio-visual equipment is not known. Moreover, few inventories of such equipment exist on the individual campuses, and at least one-half of the institutions, the selection, operation, maintenance, and control of this equipment is the responsibility of individual academic departments. At one university, the audio-visual service function controls only 2.2% of the institution's entire inventory of equipment. Another institution owns 165 different types of projectors, which is equivalent to almost two for each of its classrooms. Such unnecessary duplication is typical at institutions that have traditionally allowed individual academic departments to develop their own instructional support capabilities. Furthermore, several of these institutions have capital outlay requests pending for additional equipment that will likely be incompatible with existing inventories.

Audio-visual/communications media techniques and equipment are an invaluable academic resource that enhances the learning process. However, the procurement and operation of such equipment are expensive, particularly when control of equipment is decentralized; hardware is poorly utilized and unnecessarily duplicated.

Our review of public higher education in Virginia has indicated a gross decline in the use of existing campus educational television closed-circuit distribution systems, even though they represent considerable installation costs. Such systems should not be replicated until justified on the basis of a well-conceived long-range plan that identifies the long-term cost requirements and anticipated benefits.

These conditions illustrate the need to centralize the responsibility for all communications media equipment within an audio-visual or academic resource center. Although heavy use of such equipment by individual academic departments justifies permanent assignment of equipment to them, the control over selection, operation, and maintenance and loan of equipment should be vested in a single institutional officer. All requests for purchase of equipment, whether from state or private funds, should be reviewed by this audio-visual coordinator to ensure compatibility and quality consistent with the needs and objectives of the institution. Moreover, as additional capabilities such as the production of instructional material, graphic arts, and the like develop, these services should be incorporated within the audio-visual center and provided centrally.

Although several institutions have already developed sophisticated and full-service academic resource centers, this recommendation is directed at those institutions where such programs are fragmented or in the preliminary stages of development. As identified in the backup file, implementation of this recommendation would prevent future duplication of media equipment, achieve greater utilization and maintenance of existing equipment, and deny several specific capital outlay requests for unnecessary equipment, thus providing one-time capital cost avoidances totaling $215,000.

### 44. Discontinue establishment of decentralized branch libraries.

Four of the institutions within the state system operate branch libraries apart from their main campus libraries. One university maintains 15 separate collections, of which 11 constitute branches of the main collection, and additional collections are planned. Another institution maintains seven separate collections apart from the main collection, six of which are branches.

In addition to weakening the development of a strong central library, branch libraries raise operating costs by their unnecessary duplication of holdings and staff. Analyses of partially staffed branch libraries on two separate campuses projected an annual cost between $30,000 and $40,000 per branch. Moreover, branch collections are usually staffed with less-qualified personnel and have shorter and less convenient hours of operation, and unless carefully managed, such scattered collections create hardships on students taking courses in multiple fields.

Debates will continue between professional librarians and academicians over the academic merit of decentralized branch collections. However, ultimate decisions must be based upon the full awareness of the economic implications of such decentralization with respect to available financial resources. In this regard, there is no question that economy lies in centralization. Implementation of this recommendation would improve the coordination of several autonomous campus libraries, prevent further establishment of branch collections, and eliminate 15 specific collections that, in our judgment, are unnecessary. This would provide savings which we have conservatively estimated to be $319,000 in annual operating funds and $265,000 in capital costs.

### 45. Involve library heads in academic program planning.

At several institutions, we found that no member of the library staff was a member of any institutional organization, such as graduate study committees or undergraduate curriculum committees, that is involved in the development and planning of new academic offerings. Frequently, the library depends upon the "grapevine" to learn of new programs, or in one recent instance, the library staff first learned the existence of a new program when a faculty member began ordering material in support of the program.

To ensure that academic program planning receives immediate accurate input to the specific weaknesses and strengths of the library's resources with respect to anticipated new programs, the director of the library and key library staff members should actively participate in the academic planning process. Thus, library directors should be permanent members of curriculum planning organizations. At the larger institutions, the director might participate in graduate study development, while key library staff personnel participate in program planning at the undergraduate level.

In addition, the respective faculty library committees that advise the directors with regard to development of the libraries and their services should comprise representatives of the entire faculty. In several cases, library committees represent only the major schools of the institution. Thus, in order to facilitate optimum development of institution-wide library resources, the library committee should include representation from all college schools and aid the library in serving all elements of the academic community in accordance with institution-wide priorities.

# V. PLAN OF IMPLEMENTATION

# V. PLAN OF IMPLEMENTATION

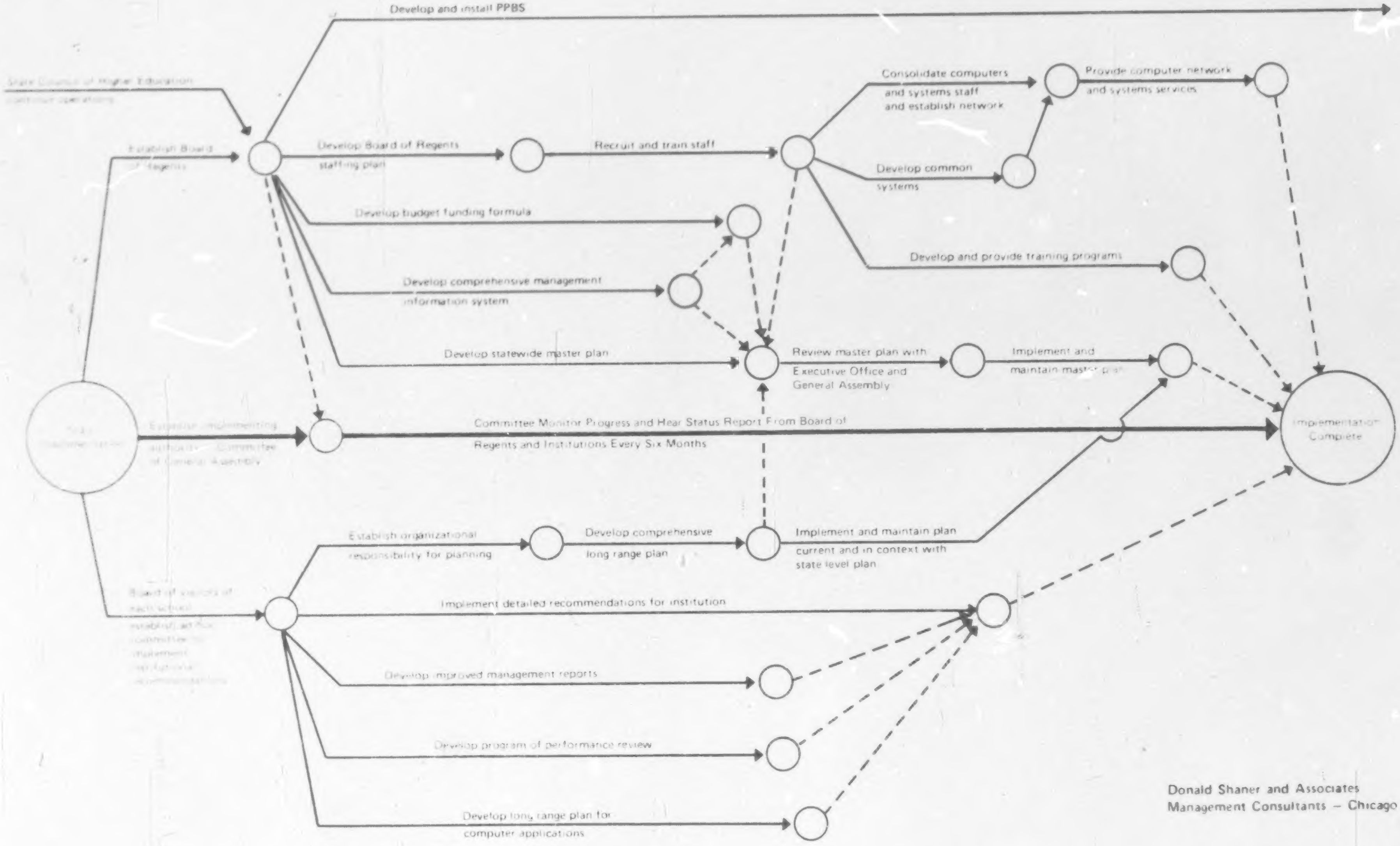
Implementation of the recommendations of the Virginia higher education management review will depend upon many factors, not all of which can be anticipated at this time. However, certain broad relationships and the general steps required can be established. A more detailed plan can be created after the decision to implement is made.

The network diagram on the following page illustrates the interrelationships of the various recommendations in terms of the proposed Board of Regents, the institutions, and the General Assembly. As shown in the diagram, the first steps required are as follows:

- Establish a Board of Regents.
- Provide that the Board of Visitors at each college and university establish an ad hoc committee to supervise the implementation of institutional recommendations.
- Establish an implementing authority. We suggested that this be a committee of the General Assembly that exists until implementation is complete.

The upper half of the chart deals with steps required by the Board of Regents after it is established. The steps shown are greatly summarized and a network diagram should be constructed for each. As shown, several steps would be initiated at the same time:

# PLAN OF IMPLEMENTATION
# VIRGINIA HIGHER EDUCATION MANAGEMENT REVIEW


State Council of Higher Education
continues operations
Establish Board
of Regents
Exercise implementing
authority — Committee
of General Assembly
Board of visitors of
each school
establish ad hoc
committee to
implement
institutional
recommendations
Develop and install PPBS
Develop Board of Regents
staffing plan
Recruit and train staff
Consolidate computers
and systems staff
and establish network
Provide computer network
and systems services
Develop common
systems
Develop and provide training programs
Develop budget funding formula
Develop comprehensive management
information system
Develop statewide master plan
Review master plan with
Executive Office and
General Assembly
Implement and
maintain master plan
Committee Monitor Progress and Hear Status Report From Board of
Regents and Institutions Every Six Months
Implementation
Complete
Establish organizational
responsibility for planning
Develop comprehensive
long range plan
Implement and maintain plan
current and in context with
state level plan
Implement detailed recommendations for institution
Develop improved management reports
Develop program of performance review
Develop long range plan for
computer applications

Donald Shaner and Associates
Management Consultants – Chicago

- Develop a state-wide master plan. Although the State Council is now developing a master plan, it should be recast in terms of the authority of the Board of Regents. As shown, the master plan would be developed with contributions from each institution.

- Develop a comprehensive management and information system.

- Develop a formula-budgeting system.

- Develop and install a program-planning-budgeting system (PPBS). As shown, this is a long-term effort; however, it should be initiated early so that the systems of formula budgeting and master planning are constructed with this in mind.

- Develop a Board of Regents staffing plan and recruit and train the required staff. Because the Board of Regents represents an expanded or strengthened State Council of Higher Education, the previously mentioned steps can proceed even before the Board of Regents staffing plan is completed.

We suggest that the establishment of a computer network representing a consolidation of all university and college computers and systems staffs be initiated after the Board of Regents' staff is complete. Common systems of administration for use by the institutions then would be developed. As shown in the diagram, the Board of Regents also would be in a position to offer training programs in all areas of management and educational technology.

At each institution, the ad hoc committee of the Board of Visitors will review efforts to implement the recommendations made for that institution through the following steps:

- Review of detailed recommendations contained in the backup file.
- Development of improved management reports.
- Development of a program of executive management performance review.
- Establishment of the organizational responsibility for planning, and development of a comprehensive long-range plan.
- Development of a long-range plan for computer applications.

The line through the center of the chart recommends that the committee of the General Assembly monitor the progress of implementation and that it receive status reports from the Board of Regents and each institution every six months until implementation is complete.

As mentioned, the plan of implementation is greatly summarized; however, we believe it provides a starting point and can be readily extended when the decision to implement has been made.

# REPORTS

SUBMITTED TO THE

GENERAL ASSEMBLY'S COMMISSION TO STUDY HIGHER EDUCATION

BY THE STAFF OF THE

STATE COUNCIL OF HIGHER EDUCATION FOR VIRGINIA

I. Legal Education and Manpower Requirements in Virginia

II. Three-Year Degree Programs

III. Desirable Size of State-Supported Colleges and Universities in Virginia

IV. Medical Scholarships

V. Determining State Limitations on Out-of-State Enrollment in Public Institutions of Higher Education

# APPENDIX B

# I. LEGAL EDUCATION AND MANPOWER REQUIREMENTS IN VIRGINIA

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# INTRODUCTION

From 1967 to 1972 the number of bona fide applicants to American law schools increased drastically in relationship to the number of spaces available. This is also true for Virginia law schools.

While the Carnegie Commission on Higher Education was studying the directions and dimensions of legal education, and many states were conducting law school feasibility studies, the same matter was brought to the attention of the 1972 Virginia General Assembly.

A House Joint Resolution (Number 52) was proposed in 1972, to direct the State Council of Higher Education for Virginia "to study the need, advisability, and desirability of establishing a [fifth] school of law in the State of Virginia." Although the resolution was not adopted by the General Assembly, the General Assembly Commission on Higher Education asked the Council of Higher Education staff to undertake an investigation consistent with the intent of the proposed resolution to the extent that it could be carried out and reported by August, 1973.

Aware of the interest in legal education, not only within the State and several of its metropolitan areas, but as a matter of national concern, the staff of the Council of Higher Education began a preliminary search for information and views pertinent to the issue. In the Fall of 1972, even before the Commission made its request, a meeting was held with the deans of Virginia's four law schools to use their expertise in identifying developments in legal education, to get bibliographic references on education and manpower issues, and other studies and reports; and to ask their cooperation in providing data from their own schools.

Data has been since received from The College of William and Mary, the University of Virginia, the University of Richmond, and Washington and Lee University. These data initially included numbers of applicants, acceptances, first-year and total enrollments, and degrees conferred for 1971-72 and projected to 1975-76. Subsequent to the request of the General Assembly Commission on Higher Education, further information has been secured. Reports on legal education and manpower requirements have also been obtained from many authoritative sources. Recent studies have been collected from other states which share Virginia's concern, and have conducted investigations in the past two or three years.

As much data has been collected, and literature reviewed, as was possible in the short time-frame allowed. Most basic reference documents have been analyzed, and the major state and national associations have been contacted through correspondence, telephone, and personal visit; by all three where feasible in the case of Virginia agencies.

Because of summer travel and vacation schedules, it was not possible to convene the Virginia law school deans subsequent to the General Assembly Commission request for this report. They or their associates were contacted, however, by correspondence and telephone conference, through which additional advice and information was secured. All persons contacted by the Council staff have been most cordial and helpful in providing whatever information they could.

## LEGAL MANPOWER AND EDUCATION IN THE NATION

The past decade has produced a great increase in the number of lawyers serving the nation, and an even greater increase in the number of college graduates seeking admission to law school. The increase in lawyers has been steadily greater than the increase in general population (see APPENDIX: TABLE 9) to the point that the lawyer/population ratio has improved from 1/632 in 1960 to 1/572 in 1970, as shown in Table 1 below.

### TABLE 1

### NATIONAL POPULATION-LAWYER RATIO, 1960-1970

| Year | Population | No. of Lawyers | Ratio | % Change per Interval [Population] | [Lawyers] |
|---|---|---|---|---|---|
| 1960 . . | 180,670,000 | 285,933 | 632 | 5.5 | 9.0 |
| 1963 . . | 188,531,000 | 296,069 | 637 | 4.4 | 3.4 |
| 1966 . . | 196,842,000 | 316,856 | 621 | 4.4 | 7.0 |
| 1970 . . | 203,184,773 | 355,242 | 572 | 3.2 | 12.1 |

Source: American Bar Foundation, 1971 Lawyer Statistical Report.

In the same time the number of first-year law students has more than doubled, the number of law graduates has increased by almost ninety percent, and the number of candidates taking the Law School Admission Test (LSAT) has grown from 47,458 in 1966-67 to 107,147 in 1971-72, as shown in Table 2 below. While this growth in the LSAT may be attributed in part to its increased use by law schools, the magnitude of admissions and graduations is a fact.

### TABLE 2

### GROWTH IN LSAT CANDIDATES, FIRST-YEAR ADMISSIONS, AND LAW DEGREES CONFERRED, 1960-71

| YEAR | FIRST-YEAR LAW STUDENTS | DEGREES IN LAW | LSAT CANDIDATES |
|---|---|---|---|
| 1960-61 | 17,031 | 9,252 | 23,800 |
| 1961-62 | 17,698 | 9,434 | 25,878 |
| 1962-63 | 19,746 | 9,633 | 31,691 |
| 1963-64 | 22,930 | 11,249 | 37,598 |
| 1964-65 | 25,515 | 12,257 | 39,503 |
| 1965-66 | 26,508 | 13,859 | 45,268 |
| 1966-67 | 26,720 | 15,522 | 47,458 |
| 1967-68 | 25,746 | 16,959 | 50,793 |
| 1968-69 | 30,719 | 17,240 | 60,503 |
| 1969-70 | 36,642 | 17,586 | 77,900 |
| 1970-71 | 37,538 | 17,477 | 107,147 |
| 1971-72 | | | 119,694 |

Source: Educational Testing Service, Princeton, New Jersey.

Law School Feasibility Studies

As a result of increased student pressure for admission to law study, many states have conducted studies on legal manpower and educational needs. Law schools have been expanded, and quotas have been set to restrict the number of out-of-state students attending state-controlled law schools. Law school total enrollments have increased from nearly 45,000 in 1962 to approximately 100,000 in 1972; more than doubling in a decade (21: p. 151)*.

As a result of a Master Plan Committee study on Legal Education to the Board of Higher Education, Illinois is expanding the University of Illinois College of Law at Champaign-Urbana, and planning to open a second state law school at Southern Illinois University-Carbondale in 1973. Requests to establish law schools at Northern Illinois University and Sangamon State University have been denied.

Two studies on the feasibility of establishing a new law school in Wisconsin were commissioned in 1972. The first, appointed by the Chancellor of the University of Wisconsin-Madison, recommended that an additional public legal education program was needed (12). The second, commissioned by the Executive Vice President of the University of Wisconsin System concurred with the first report with respect to the demand for legal education, but argued that the number of qualified potential law graduates would exceed the number of places available in the traditional practice of law. The Vice President's Committee did not find it desirable for the state to provide a second law school in order to educate all persons who desired a law degree (13). The Wisconsin legislature did not approve the establishment of a second state-supported law school.

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*numbered references in parentheses, e.g. (21), refer to Bibliography, pp. 38-41.

In 1972, the Coordinating Board of the Texas College and University System received five requests from four Texas universities for new or expanded legal education programs, including three new law schools. An advisory committee was appointed to investigate Texans' accessibility to law school and law graduate employment opportunities. The Committee further asked, "Would the Creation of More Opportunities For Legal Education Serve the Public Interest?" The Committee found that "The situation in Texas, like the rest of the nation, in placement of new law graduates, has become an employer's market." (11). They recommended that no new law school be established, and this recommendation was accepted by the Board.

A Florida study report made in 1972 found that the legal profession in the state is in a healthy position. It also concluded that the dramatic increase in numbers of applications for admission to law schools would subside within the next two years, based in part on the fact that the population age group (21-26) which normally represents the largest group of law school applicants has peaked in terms of its rate of annual increase (6).

A number of new law schools have been established or are presently being planned, however. In the past few years new law schools have opened at Hofstra University (New York), Gonzoga University-Day Division (Washington), Lewis Clark University-Day Division (Oregon), and Antioch Law School (Washington, D.C.-Private). Presently being developed or opening in addition to the school at Southern Illinois University, are schools at the University of Massachusetts (Public), University of Hawaii (Public), Brigham Young University (Utah- Private), University of California at Santa Barbara (Public), and the University of Puget Sound (Washington-Private) (20: p. 147).

There are 149 law schools approved by the American Bar Association. More than thirty additional schools are operating without approval, not including those newly established or opened listed above. It is probable that each of the new law schools will seek ABA approval.

Student Interest in Legal Education

There is disagreement within the law profession and among legal educators about the validity of projections of increased applications for admission to law school or about manpower projections.

In the last five years there has been a dramatic increase in the number of applications for admission to law schools. While accurate totals on completed applications to law schools are not available, there are accurate totals of the number of people taking the Law School Admission Test (LSAT) administered by the Educational Testing Service (ETS).

Most law schools now require applicants to sit for the Law School Admission Test (LSAT). Compared to the problem of multiple applications, there are fewer repeaters in taking the LSAT, so it has been used as an indicator of the number of persons seriously interested in entering law school. The number of LSAT candidates jumped from 107,147 in 1970-1971 to 119,694 in 1971-1972. A projection of 131,000 was made for 1972-1973 showing another significant increase. However, only 121,416 tests were administered in 1972-1973. This may indicate some leveling off in demand, and may confirm the estimate of the Florida study which showed that the 21 to 26 age group had peaked in size.

The major question is, how many of those currently taking the LSAT are really qualified for law study? Pedrick and Soles, in a Delaware study argued that it is fair to judge, on the basis of test scores and undergraduate grades, that about half of the candidates are qualified to pursue law study. They deduced that there are about 60,000 persons interested and qualified for entrance into law school competing for less than 40,000 spaces in the first-year classes (9).

A new development, according to authoritative sources, has been the enrollment in evening programs of a significant number of students who wanted to be in the full-time day program. When they lost the competition for seats in the day class, they sought and gained admission to the evening program where the competition was not quite as brisk (20: p. 147).

This great imbalance between applications and first-year places has been characteristic of the more prestigious law schools in the nation for many years. The admission pressure has caused many states to set limits on the number of out-of-state applicants who may be admitted to their state-supported law schools. The recent Massachusetts study which promoted the establishment of a law school at the University of Massachusetts recommended that "the law school limit itself to perhaps five percent non-residents." Texas limits non-resident students to ten percent. And in 1972, the University of Iowa Law School reduced out-of-state admission from 33 to 20 percent. Arizona has appointed a special Regent-Legislator Investigating Committee to study the ratio of non-residents to residents in that state's two law schools (9: pp. 20-21).

Legal Manpower Requirements

The determination of whether more lawyers are needed or can be employed, now or some time in the future, is difficult and debatable. The number of lawyers in proportion to the nation's population has been increasing steadily. Law school enrollment expansions and the establishment of new law schools have provided this increase. In a few short years, we have moved from having one student enrolled in law school for every four practicing lawyers, to having almost one student enrolled for every three practicing lawyers.

Some authorities see an increasing placement problem, and a threat to the Bar and the public in a vast oversupply of lawyers. Others believe that new ways and opportunities will be developed to utilize all legal manpower that may be available in the future.

The demand for lawyers may decrease with the advent of no-fault automobile insurance, no-fault divorce, the expanded use of insurance companies in title transfers, and the increased utilization of paraprofessionals. On the other hand, the demand for lawyers may increase from major changes in criminal law, the increasing complexity of modern life, consumerism, removal of cost barriers to litigation, and the expanding use of class action.

The ABA Task Force on Professional Utilization also found some evidence that there may be a shortage of employment opportunities in some areas of the traditional practice of law. They report on one authority:

> Using the lowest attrition rates and the highest growth rate of admissions of the last decade, and the probable addition of six new schools of law in the United states, it is possible to extrapolate an estimate of 30,000 new lawyers per year by 1975 [17,477 degrees

> were conferred in 1972]. The U.S. Department of Labor estimates a need of 14,500 practicing lawyers per year . . . .

However the Task Force included among their eight conclusions several strong statements (2: pp.6-7):

> There is no conclusive evidence to indicate that there are now or are likely to be in the forseeable future more legally trained men and women than can be satisfactorily and productively employed.
>
> The existence of a large pool of well-qualified, legally trained individuals constituted a major opportunity and should be viewed as a significant national resource.
>
> While the expansion of existing law school facilities and creation of new facilities should be undertaken with caution so as not to dilute the quality of educational resources, if the demand for legal education continues at the present or higher levels, facilities should be provided for all qualified individuals seeking to study law.

A California Master Planning study on the other hand found considerable evidence that during the 1970-1980 period there could be a serious legal manpower supply and demand imbalance in the state that could equal, if not surpass, those created in the aerospace and defense industry and the teaching profession (8).

The California study projected that there would be a new supply of 18,937 law graduates from 1968 to 1975 as compared with the California Department of Human Resources Development projected need of 7,100 (3,800 for replacement and 3,300 resulting from new legal services requirements).

On one side, we have a number of new law schools now being established or planned, and existing schools that have expanded admissions. On the other side, there are education and manpower projections which show the number of graduates exceeding manpower requirements by 2 to 1. It may be well to consider the advice given at the 1972 meeting of the American Bar Association by special

Task force chairman William Reece Smith, Jr.:

> This is not the time to hit the panic button and seek immediately either to limit or increase access to the study of law or to the profession.

If the demand for more legal education continues, he said, the task force would advise law schools to consider expanding their facilities at a slow pace (24: p. 1).

LEGAL MANPOWER AND EDUCATION IN THE SOUTHEAST

The Southern Regional Education Board (SREB) commissioned a report this year on The Law Schools and the Needs of the Legal Profession: A Study of Manpower in Education and Law. While the complete report has not yet been published, SREB has released a summary of it.

The summary contains three significant observations about manpower:

1. Our present supply of legal manpower is more than adequate to fill employment opportunities.
2. However, there are large segments of our population which cannot get legal services.
3. The creation of new schools will not solve the problem of unmet needs of legal services. It is the distribution of services that causes the problem, not a shortage of lawyers.

On the other hand, the report states that "expanded opportunities for legal education are desirable," and that "more opportunities for part-time legal education are needed in the South," but that "in general, part-time programs should be initiated only in conjunction with on-going full-time programs. New schools should be created only in places of special need." The report encourages the strengthening and expansion of existing law schools, wherever possible, before establishing new schools (15).

The 14 SREB states have 41 of the nation's 149 law schools approved by the American Bar Association (ABA) and 10 of 32 unapproved schools (1). In 1971 these states had 5,420 admissions to the Bar as compared to 20,485 for the entire United States, comprising 26.4 percent of the total Bar Admissions. Virginia's Bar Admissions substantially exceeded the number of graduates from Virginia law schools, ranking the Commonwealth third in Bar Admissions among SREB states, behind only Texas and Florida (see Table 3).

## TABLE 3

## SREB STATES: ADMISSIONS TO THE BAR, 1960, 1970, 1971

| STATE | 1960 | 1970 | 1971 |
|---|---|---|---|
| ALABAMA | 84 | 128 | 160 |
| ARKANSAS | 47 | 112 | 112 |
| FLORIDA | 452 | 871 | 996 |
| GEORGIA | 151 | 449 | 465 |
| KENTUCKY | 86 | 180 | 250 |
| LOUISIANA | 180 | 363 | 354 |
| MARYLAND | 371 | 436 | 431 |
| MISSISSIPPI | 76 | 166 | 152 |
| NORTH CAROLINA | 140 | 206 | 276 |
| SOUTH CAROLINA | 65 | 131 | 175 |
| TENNESSEE | 144 | 214 | 280 |
| TEXAS | 563 | 1,048 | 1,153 |
| VIRGINIA | 287 | 396 | 516 |
| WEST VIRGINIA | 52 | 87 | 100 |
| REGIONAL TOTAL | 2,698 | 4,787 | 5,420 |
| U.S. TOTAL | 10,505 | 17,922 | 20,485 |

Source: National Conference of Bar Examiners, The Bar Examiner, Vol. 30, 40, 41.

- At the same time, ABA-approved law schools in the Region enrolled 10,194 of the nation's 36,171 first-year students (Fall 1971), and conferred 4,266 of 17,006 first professional law degrees. Virginia ranked sixth among SREB states in 1971 Admissions, fifth in total enrollment, and third in number of first professional degrees conferred (see Table 4). Only Florida, North Carolina, and Texas have as many law schools as Virginia. Seven of the SREB states have only a single state-supported law school (4: pp. 346-349).

TABLE 4

SREB STATES: ENROLLMENTS AND DEGREES CONFERRED IN ABA-APPROVED LAW SCHOOLS, 1960-61 and 1971-72

| | 1960-61 | | | 1971-72 | | |
|---|---|---|---|---|---|---|
| STATE | FIRST-YEAR STUDENTS FALL 1961 | TOTAL ENROLLED FALL 1961 | J.D.&LL.B. DEGREES 1960-61 | FIRST-YEAR STUDENTS FALL 1971 | TOTAL ENROLLED FALL 1971 | J.D.&LL.B. DEGREES 1970-71 |
| ALABAMA | 178 | 346 | 86 | 554 | 1,066 | 188 |
| ARKANSAS | 59 | 126 | 33 | 295 | 631 | 114 |
| FLORIDA | 426 | 977 | 223 | 1,250 | 2,992 | 508 |
| GEORGIA | 468 | 1,138 | 263 | 589 | 1,480 | 204 |
| KENTUCKY | 148 | 319 | 74 | 458 | 1,116 | 234 |
| LOUISIANA | 293 | 774 | 193 | 969 | 2,093 | 357 |
| MARYLAND | 257 | 671 | 129 | 683 | 1,788 | 199 |
| MISSISSIPPI | 94 | 214 | 73 | 376 | 654 | 91 |
| NORTH CAROLINA | 301 | 694 | 184 | 681 | 1,703 | 312 |
| SOUTH CAROLINA | 97 | 227 | 47 | 348 | 742 | 162 |
| TENNESSEE | 326 | 716 | 148 | 844 | 1,603 | 282 |
| TEXAS | 1,019 | 2,415 | 487 | 2,426 | 5,419 | 1,026 |
| VIRGINIA | 429 | 1,017 | 229 | 616 | 1,774 | 457 |
| WEST VIRGINIA | 67 | 160 | 42 | 105 | 276 | 72 |
| REGIONAL TOTAL | 4,112 | 9,794 | 2,210 | 10,194 | 23,337 | 4,266 |
| U.S. TOTAL | 16,489 | 41,499 | 9,435 | 36,171 | 93,118 | 17,006 |

Source: Section of Legal Education and Admissions to the Bar, American Bar Association, Review of Legal Education.

The SREB states enrolled 28.2 percent of new students and conferred 25.1 percent of first law degrees. Admissions to the Bar in SREB states in 1971 were slightly higher than the number of degrees conferred when compared with national data. These Bar Admission figures compare favorably with the South's approximately 29 percent of the United States population (14).

There is a wide diversity among the SREB states in their lawyer-population ratios. Of the 14 SREB states, nine rank below Virginia in lawyer-population ratio: Alabama, Arkansas, Georgia, Kentucky, Mississippi, North Carolina and South Carolina, Tennessee, and West Virginia; and four rank above Virginia: Florida, Louisiana, Maryland, and Texas (see Table 5). The ten states nearest Virginia in population include five SREB states. Of the ten, four rank below Virginia in lawyer-population ratio: Indiana, North Carolina, Georgia, and Tennessee; and six rank above Virginia: Florida, Massachusetts, Missouri, Wisconsin, Maryland, and Minnesota (see Table 6).

## TABLE 5

## SREB STATES: POPULATION-LAWYER RANK, 1970

| STATE | POP. RANK | LAWYER RANK | POP. PER LAWYER |
|---|---|---|---|
| ALABAMA | 21 | 28 | 974 |
| ARKANSAS | 32 | 35 | 913 |
| FLORIDA | 9 | 11 | 590 |
| GEORGIA | 15 | 16 | 748 |
| KENTUCKY | 23 | 27 | 831 |
| LOUISIANA | 20 | 20 | 662 |
| MARYLAND | 18 | 13 | 527 |
| MISSISSIPPI | 29 | 32 | 802 |
| NORTH CAROLINA | 12 | 25 | 1,095 |
| SOUTH CAROLINA | 26 | 34 | 1,089 |
| TENNESSEE | 17 | 21 | 757 |
| TEXAS | 4 | 4 | 587 |
| VIRGINIA | 14 | 14 | 674 |
| WEST VIRGINIA | 34 | 36 | 958 |

## TABLE 6

## POPULATION-LAWYER RANK, 1970
## VIRGINIA AND 10 STATES NEAREST IN POPULATION

| STATE | POP. RANK | LAWYER RANK | POP. PER LAWYER |
|---|---|---|---|
| FLORIDA | 9 | 11 | 590 |
| MASSACHUSETTS | 10 | 8 | 518 |
| INDIANA | 11 | 18 | 899 |
| NORTH CAROLINA | 12 | 25 | 1,095 |
| MISSOURI | 13 | 12 | 587 |
| VIRGINIA | 14 | 14 | 674 |
| GEORGIA | 15 | 16 | 748 |
| WISCONSIN | 16 | 15 | 660 |
| TENNESSEE | 17 | 21 | 757 |
| MARYLAND | 18 | 13 | 527 |
| MINNESOTA | 19 | 17 | 651 |

Source: AMERICAN BAR FOUNDATION, THE 1971 LAWYER STATISTICAL REPORT

## LEGAL MANPOWER AND EDUCATION IN VIRGINIA

Virginia has 2.29 percent of the population of the United States, 1.94 percent of the lawyers, and 2.00 percent of law school graduates. The number of lawyers in Virginia has been growing over the past decade at a faster rate than the general population of the State. (see Appendix: Table 9). In terms of ranking, the percentages stated above place Virginia 14th in the nation in population and 14th in the number of lawyers.

Virginia has more lawyers in government service (17.0 percent) than the nation as a whole (14.3 percent), and consequently fewer lawyers in private practice (68.0 percent) than shown in national statistics (72.7 percent). (see Appendix: Table 10). However Virginia continues to attract more lawyers and the Virginia Bar has grown significantly in the past few years. In 1971, Virginia law schools had 375 graduates, but 516 persons were admitted to the bar that year. Appendix: Table 11 shows that Virginia ranks 12th in the nation in the number of law graduates. And the 1972-73 Executive Directors Report to The Virginia State Bar indicates that membership in the State Bar now exceeds 9,500 (see Table 7) and may pass the 10,000 mark by the end of the next fiscal year. The increase in the size of the State Bar membership has brought it to 10th in size among State Bars in the United States (25: p.11).

## TABLE 7
## VIRGINIA BAR MEMBERSHIP, 1972, 1973

| Class | 1973 | 1972 |
|---|---|---|
| Active | 6,076 | 5,795 |
| Associate | 3,077 | 2,988 |
| Judiciary | 197 | 199 |
| Military | 168 | 154 |
| Total | 9,518 | 9,136 |

Source: 1972, Thirty-Fourth Annual Report of the Virginia State Bar
1973, Virginia Bar News Vol. 21, May-June, 1973.

Due to increasing numbers of qualified applicants, over the past several years Virginia law schools have increased or implemented plans to increase their enrollments to the limits of their capacity. A substantial increase of approximately twenty percent in entering classes each year has been projected for 1975, as shown in Table 8 below.

## TABLE 8
## VIRGINIA LAW SCHOOL ADMISSIONS, 1972, 1975

| School | Actual 1972 | Projected 1975 |
|---|---|---|
| University of Virginia | 310 | 360 |
| College of William and Mary | 150 | 150 |
| University of Richmond | 110 | 150 |
| Washington and Lee University | 80 | 120 |
| TOTAL | 650 | 780 |
| INCREASE | 130 (20%) | |

Source: SPECIAL INSTITUTIONAL REPORTS, January, 1973.

It may also be expected that the increases in law school admissions will be accompanied by increases in the proportion of Virginians in each entering class. The University of Virginia has announced that the number of Virginians in its entering Law School Class will be increased to 60 percent. This represents the admission of 51 additional Virginians by 1975-76 (18, 36). The College of William and Mary has announced a change from 60-40 to 70-30 in the ratio of Virginians in the entering classes of the Marshall-Wythe School of Law (26, 34), providing an increase of 17 Virginians. The College also will renovate, by 1975 or 1976, another building for use by the law school. Should application and enrollment pressures continue, the College will increase the size of the entering law school class, provided necessary financial support is provided to maintain faculty and library quality consistent with ABA approval and AALS membership standards.

In the private sector, the University of Richmond, T.C. Williams School of Law will maintain its approximately 70-30 ratio of Virginians to non-Virginians, but has increased the size of the entering class from 110 to 150. (See Appendix: Table 13.) The Washington and Lee University School of Law is planning to increase the size of its entering class from 80 to 120 when a new physical plant is completed in 1975. (See Appendix: Table 15.) The University of Richmond also is presently studying the feasibility of establishing an evening division of its law school. Demographic data has been developed and a decision may be forthcoming during the coming 1973-1974 academic year.

Since a large number of those studying law in Virginia are non-Virginians--constituting the majority until just a few years ago--it may also be expected that the recently established and planned law schools in other states will relieve the excessive pressure for admission to Virginia's law schools from out-of-state applicants.

Conservatively, then, changes in Virginia law school admission policies and capacities will provide an approximately 100 new spaces for Virginians in the entering classes of Virginia's law schools by 1975. This number does not include the possible expansion of The College of William and Mary, Marshall-Wythe School of Law in 1975 or 1976, nor the possibility of the University of Richmond, T.C. Williams School of Law establishing an evening division.

In effect the increase in entering class places for Virginians is equivalent to the addition of a new school of law in the Commonwealth, dedicated exclusively to Virginians, already holding membership in the Association of American Law Schools, and fully approved by the American Bar Association.

## FINDINGS AND CONCLUSIONS

### Findings

I. A survey of regional and national lawyer manpower and education revealed four major factors:

1. A much larger number of persons are seeking legal education (60,000) than law schools can accommodate (40,000).
2. Assessments and projections in several states indicate that it is now an employer's market for lawyers; the supply is exceeding the demand.
3. The U.S. Department of Labor projects that by 1980 the annual number of law school graduates (30,000) will be more than double the annual requirements for new lawyers and replacements (14,500).
4. There appears to be a slowing in the rate of increased applications to law schools.

II. A number of states have undertaken education and manpower studies in the past three or four years. The status of legal education among several states is:

1. Six states do not have law schools: Alaska, Delaware, Nevada, New Hampshire, Rhode Island, and Vermont.
2. Hawaii, far removed from the mainland, has just established programs in law at the University of Hawaii.

3. Illinois is just opening its second state-supported law school.
4. Delaware has studied and decided against establishing a state-supported law school.
5. Florida has done a study finding a healthy state of affairs in legal education and the profession, and will not establish a new law school.
6. Massachusetts is establishing a new law school at the University of Massachusetts.
7. The Texas Coordinating Board recently denied several requests to establish new law schools, after finding ample educational opportunities already existing for qualified Texans.
8. Wisconsin did not approve the establishment of a second state-supported law school, based on the facts from two special studies.
9. The 1972-73 Prelaw Handbook indicates many law schools which are building new facilities and expanding enrollments. At least nine new law schools have been established since 1970 to accommodate full-time day students.
10. There has been a decline in the number of part-time programs, due to higher costs/high attrition rates. In 1971-72 part-time programs accounted for only 212 of 22,579 LL.B. or J.D. degrees.

III. A special study commissioned by the Southern Regional Education Board encouraged the strengthening and expansion of existing law schools, before considering the establishment of a new law school. This approach is also promoted by the Task Force on Professional Utilization of the

American Bar Association, which recommended that the expansion of existing law schools or creation of new ones should be undertaken with caution so as not to dilute the quality of educational resources.

The SREB report promoted the idea of creating more opportunities for part-time legal education in the South. But it emphasized that part-time programs should be initiated only in conjunction with on-going full time programs.

IV. Virginia ranks well in national statistics, compared to its standing of 14th in population:

1. 14th in the number of lawyers
2. 12th in the number of law school graduates
3. 5th among the 14 SREB states in lawyer-population ratio

The Virginia Bar is now reported to be 10th in size among State Bars.

V. Virginia's two public and two private law schools are expanding enrollments or increasing their ratios of Virginians admitted to the entering class each year. The University of Richmond is studying the feasibility of establishing an evening division of the T.C. Williams School of Law.

The number of new spaces for Virginians in entering classes each year will be approximately 100 in 1975-76. This figure does not include the possibility of expansion at The College of William and Mary, change in the in-state versus out-of-state ratio at Washington and Lee University, or establishment of an evening division at the University of Richmond.

## Conclusions

From the data which has been gathered and the findings previously stated, the following conclusions have been drawn. The conclusions are presented here as derived from our best judgment and within the limitations of the time constraints imposed.

1. Virginia law school expansion and changes in in-state/out-of-state enrollment ratios, which will provide approximately 100 new spaces for Virginians each year by 1975, are equivalent to providing a new law school exclusively for Virginians.

2. A part-time program for law study should not be established in Virginia, except in association with an existing, ABA-approved full-time program.

   Any decision regarding part-time legal education, at least for the Richmond metropolitan area, should be deferred until completion of the University of Richmond law study.

3. Should enough need be identified for part-time legal education from the urban Richmond and Lower Tidewater areas, The College of William and Mary is ideally located midway between the two metropolitan areas, and should explore the possibility of such a program.

4. At this time, considering steps already taken or planned, a new law school in Virginia does not appear to be necessary. A categorical recommendation for or against a new law school cannot

be made without a comprehensive feasibility study; however, the Council of Higher Education would be pleased to proceed with such a study if so directed.

# APPENDICES

# AND

# BIBLIOGRAPHY

## APPENDIX: TABLE 9

### STATES: POPULATION-LAWYER RATIO, 1970

| State | Population | No. of Lawyers | Population per Lawyer | Rank in Country | | Percentage | | Percentage Change 1963-1970 | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Population | No. of Lawyers | Of U.S. Population | Of U.S. Lawyers | Population | Lawyers |
| ALABAMA | 3,444,000 | 3,537 | 974 | 21 | 23 | 1.70 | 1.0 | −2.08 | 16.3 |
| ALASKA | 302,000 | 466 | 648 | 51 | 51 | .15 | .13 | 11.03 | 51.3 |
| ARIZONA | 1,772,000 | 2,769 | 640 | 33 | 31 | .87 | .78 | 9.52 | 24.0 |
| ARKANSAS | 1,923,000 | 2,107 | 913 | 32 | 35 | .95 | .59 | −1.64 | 9.34 |
| CALIFORNIA | 19,963,000 | 34,243 | 583 | 1 | 2 | 9.82 | 9.64 | 5.52 | 20.53 |
| COLORADO | 2,207,000 | 4,665 | 473 | 30 | 24 | 1.09 | 1.31 | 11.63 | 16.56 |
| CONNECTICUT | 3,032,000 | 5,583 | 543 | 24 | 19 | 1.49 | 1.57 | 5.46 | 15.63 |
| DELAWARE | 548,000 | 736 | 745 | 47 | 48 | .27 | .21 | 7.03 | 19.96 |
| DISTRICT OF COLUMBIA | 757,000 | 16,112 | 47 | 41 | 6 | .37 | 4.54 | 6.31 | 11.46 |
| FLORIDA | 6,789,000 | 11,510 | 590 | 9 | 11 | 3.34 | 3.24 | 14.21 | 20.53 |
| GEORGIA | 4,590,000 | 6,140 | 748 | 15 | 16 | 2.26 | 1.73 | 2.94 | 12.37 |
| HAWAII | 770,000 | 906 | 850 | 40 | 42 | .38 | .26 | 7.24 | 36.05 |
| IDAHO | 713,00 | 848 | 841 | 43 | 43 | .35 | .24 | 2.74 | 10.27 |
| ILLINOIS | 11,114,000 | 22,036 | 504 | 5 | 3 | 5.47 | 6.2 | 3.66 | 8.49 |
| INDIANA | 5,194,000 | 5,778 | 899 | 11 | 18 | 2.56 | 1.63 | 5.61 | 10.98 |
| IOWA | 2,825,000 | 4,020 | 703 | 25 | 26 | 1.39 | 1.13 | 2.84 | 5.51 |
| KANSAS | 2,249,000 | 3,458 | 650 | 28 | 29 | 1.11 | .97 | −.04 | 11.04 |
| KENTUCKY | 3,219,000 | 3,875 | 831 | 23 | 27 | 1.58 | 1.09 | 1.13 | 9.0 |
| LOUISIANA | 3,643,000 | 5,502 | 662 | 20 | 20 | 1.79 | 1.55 | 1.11 | 14.03 |
| MAINE | 994,000 | 1,130 | 880 | 38 | 40 | .49 | .32 | 1.12 | 10.78 |
| MARYLAND | 3,922,000 | 7,447 | 527 | 18 | 13 | 1.93 | 2.10 | 8.55 | 15.2 |
| MASSACHUSETTS | 6,689,000 | 12,905 | 518 | 10 | 8 | 3.29 | 3.63 | 24.26 | 13.66 |
| MICHIGAN | 8,875,000 | 11,753 | 755 | 7 | 10 | 4.37 | 3.31 | 5.98 | 14.98 |
| MINNESOTA | 3,805,000 | 5,844 | 651 | 19 | 17 | 1.87 | 1.64 | 6.4 | 12.64 |
| MISSISSIPPI | 2,217,000 | 2,766 | 802 | 29 | 32 | 1.09 | .78 | −4.73 | 10.41 |
| MISSOURI | 4,677,000 | 7,962 | 587 | 13 | 12 | 2.3 | 2.24 | 3.75 | 3.51 |
| MONTANA | 694,000 | 1,072 | 647 | 44 | 41 | .34 | .3 | −1.14 | 10.51 |
| NEBRASKA | 1,484,000 | 2,679 | 554 | 35 | 33 | .73 | .75 | 3.85 | 6.09 |
| NEVADA | 489,000 | 773 | 633 | 48 | 47 | .24 | .22 | 7.71 | 27.13 |
| NEW HAMPSHIRE | 738,000 | 823 | 897 | 42 | 45 | .36 | .23 | 8.37 | 17.57 |
| NEW JERSEY | 7,168,000 | 11,999 | 579 | 8 | 9 | 3.53 | 3.38 | 3.91 | 14.29 |
| NEW MEXICO | 1,016,000 | 1,319 | 770 | 37 | 39 | .50 | .37 | 5.87 | 14.49 |
| NEW YORK | 18,191,000 | 55,946 | 325 | 2 | 1 | 8.95 | 15.75 | .37 | 7.18 |
| NORTH CAROLINA | 5,082,000 | 4,638 | 1,095 | 12 | 25 | 2.5 | 1.31 | 1.64 | 8.38 |
| NORTH DAKOTA | 618,000 | 809 | 764 | 46 | 46 | .30 | .23 | 4.92 | 8.59 |
| OHIO | 10,652,000 | 17,001 | 627 | 6 | 5 | 5.24 | 4.79 | 3.37 | 8.25 |
| OKLAHOMA | 2,559,000 | 5,056 | 506 | 27 | 22 | 1.26 | 1.42 | 4.11 | 4.14 |
| OREGON | 2,081,000 | 3,207 | 611 | 31 | 30 | 1.02 | .90 | 6.45 | 12.72 |
| PENNSYLVANIA | 11,794,000 | 14,418 | 818 | 3 | 7 | 5.8 | 4.06 | 1.83 | 11.64 |
| RHODE ISLAND | 950,000 | 1,390 | 683 | 39 | 37 | .47 | .39 | 5.79 | 14.78 |
| SOUTH CAROLINA | 2,591,000 | 2,379 | 1,089 | 26 | 34 | 1.28 | .67 | .19 | 13.61 |
| SOUTH DAKOTA | 666,000 | 826 | 808 | 45 | 44 | .33 | .23 | −2.35 | 10.87 |
| TENNESSEE | 3,924,000 | 5,184 | 757 | 17 | 21 | 1.93 | 1.46 | 1.06 | 8.65 |
| TEXAS | 11,197,000 | 19,074 | 587 | 4 | 4 | 5.51 | 5.37 | 4.14 | 16.78 |
| UTAH | 1,059,000 | 1,367 | 775 | 36 | 38 | .52 | .38 | 5.06 | 8.4 |
| VERMONT | 445,000 | 611 | 728 | 49 | 49 | .22 | .17 | 9.88 | 19.1 |
| VIRGINIA | 4,648,000 | 6,893 | 674 | 14 | 14 | 2.29 | 1.94 | 3.12 | 18.86 |
| WASHINGTON | 3,409,000 | 4,671 | 730 | 22 | 23 | 1.68 | 1.32 | 13.4 | 14.37 |
| WEST VIRGINIA | 1,744,000 | 1,820 | 958 | 34 | 36 | .86 | .51 | 2.79 | 3.05 |
| WISCONSIN | 4,418,000 | 6,697 | 660 | 16 | 15 | 2.17 | 1.88 | 6.18 | 7.37 |
| WYOMING | 332,000 | 475 | 699 | 50 | 50 | .16 | .13 | 9.12 | 2.81 |

Source: American Bar Foundation. The 1971 Lawyer Statistical Report. p. 26

APPENDIX: TABLE 10

## NATIONAL AND VIRGINIA DISTRIBUTION OF LAWYERS BY PRACTICE: 1970

| SECTOR | NATION NUMBER | NATION % | VIRGINIA NUMBER | VIRGINIA % |
|---|---|---|---|---|
| GOVERNMENT SECTOR | | | | |
| EXECUTIVE AND LEGISLATIVE | | | | |
| CITY | 7,800 | 2.4 | 207 | 3.2 |
| COUNTY OR STATE | 9,293 | 2.9 | 138 | 2.2 |
| FEDERAL | 18,710 | 5.8 | 424 | 6.6 |
| Sub Total: | 35,803 | 11.1 | 769 | 12.0 |
| JUDICIAL | | | | |
| CITY | 1,923 | 0.6 | 80 | 1.2 |
| COUNTY OR STATE | 7,548 | 2.3 | 213 | 3.3 |
| FEDERAL | 878 | 0.3 | 29 | 0.5 |
| Sub Total: | 10,349 | 3.2 | 322 | 5.0 |
| TOTAL GOVERNMENT SECTOR: | 46,152 | 14.3 | 1,091 | 17.0 |
| PRIVATE SECTOR | | | | |
| PRIVATE PRACTICE | | | | |
| INDIVIDUAL | 118,963 | 36.6 | 2,102 | 32.8 |
| PARTNERS | 92,442 | 28.5 | 1,837 | 28.7 |
| ASSOCIATES | 24,680 | 7.6 | 415 | 6.5 |
| Sub Total: | 236,085 | 72.7 | 4,354 | 68.0 |
| EMPLOYED BY PRIVATE CONCERNS | | | | |
| PRIVATE INDUSTRY | 33,593 | 10.3 | 462 | 7.2 |
| EDUCATIONAL INSTITUTIONS | 3,732 | 1.1 | 106 | 1.6 |
| OTHER PRIVATE | 3,161 | 1.0 | 14 | 0.2 |
| Sub Total: | 40,486 | 12.4 | 582 | 9.0 |
| TOTAL PRIVATE SECTOR: | 276,571 | 85.1 | 4,936 | 77.1 |
| RETIRED OR INACTIVE: | (16,812) | ( 5.2) | (748) | (11.1) |
| TOTAL: | 324,818 | 100.0 | 6,401 | 100.0 |

SOURCE: AMERICAN BAR FOUNDATION. THE 1971 LAWYER STATISTICAL REPORT

## APPENDIX: TABLE 11
## LAW SCHOOL GRADUATES, 1971

| State | Law Graduates | Rank | Percent |
|---|---|---|---|
| Alabama | 188 | 27 | 1.0 |
| Arizona | 182 | 29 | 1.0 |
| Arkansas | 114 | 34 | .6 |
| California | 2,158 | 2 | 11.8 |
| Colorado | 285 | 18-19 | 1.5 |
| Connecticut | 289 | 17 | 1.5 |
| District of Columbia | 1,188 | 4 | 6.5 |
| Florida | 536 | 10 | 2.9 |
| Georgia | 236 | 22 | 1.3 |
| Idaho | 31 | 45 | .2 |
| Illinois | 926 | 6 | 5.0 |
| Indiana | 385 | 11 | 2.1 |
| Iowa | 167 | 30 | .9 |
| Kansas | 183 | 28 | 1.0 |
| Kentucky | 207 | 25 | 1.1 |
| Louisiana | 357 | 13 | 1.9 |
| Maine | 47 | 41 | .3 |
| Maryland | 93 | 36-37 | .5 |
| Massachusetts | 1,498 | 3 | 8.2 |
| Michigan | 799 | 7 | 4.4 |
| Minnesota | 210 | 24 | 1.1 |
| Mississippi | 93 | 36-37 | .5 |
| Missouri | 302 | 16 | 1.7 |
| Montana | 36 | 42 | .2 |
| Nebraska | 145 | 33 | .8 |
| New Jersey | 342 | 14 | 1.9 |
| New Mexico | 57 | 39 | .3 |
| New York | 2,315 | 1 | 12.6 |
| North Carolina | 312 | 15 | 1.7 |
| North Dakota | 35 | 43 | .2 |
| Ohio | 657 | 9 | 3.6 |
| Oklahoma | 191 | 26 | 1.1 |
| Oregon | 224 | 23 | 1.2 |
| Pennsylvania | 710 | 8 | 3.9 |
| Puerto Rico | 238 | 21 | 1.3 |
| South Carolina | 162 | 31 | .9 |
| South Dakota | 50 | 40 | .3 |
| Tennessee | 285 | 18-19 | 1.5 |
| Texas | 1,073 | 5 | 5.9 |
| Utah | 106 | 35 | .6 |
| Virginia | 375 | 12 | 2.0 |
| Washington | 157 | 32 | .9 |
| West Virginia | 72 | 38 | .4 |
| Wisconsin | 279 | 20 | 1.5 |
| Wyoming | 33 | 44 | .2 |
| TOTAL: | 18,319 |  | 100.0 |

SOURCE: REVIEW OF LEGAL EDUCATION

# APPENDIX: TABLE 12

## THE COLLEGE OF WILLIAM AND MARY MARSHALL-WYTHE SCHOOL OF LAW

## STUDENT DATA REPORT

| | | ACTUAL | | | | PROJECTED | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1971-1972 | | 1972-1973 | | 1973-1974 | | 1974-1975 | | 1975-1976* | |
| | | In-State | Out-State | In-State | Out-State | In-State | Out-State | In-State | Out-State | In-State | Out-State |
| **Applications** | | | | | | | | | | | |
| 1st Professional: | Full-time | 514 | 757 | 716 | 1528 | 750 | 1600 | 800 | 1700 | 850 | 1800 |
| | Part-time | | | | | | | | | | |
| Graduate: | Full-time | 7 | 22 | 8 | 34 | 10 | 25 | 12 | 30 | 15 | 35 |
| | Part-time | | | | | | | | | | |
| **Acceptances** | | | | | | | | | | | |
| 1st Professional: | Full-time | 152 | 150 | 147 | 126 | 168 | 112 | 168 | 112 | 168 | 112 |
| | Part-time | | | | | | | | | | |
| Graduate: | Full-time | 5 | 12 | 8 | 21 | 8 | 20 | 8 | 20 | 8 | 20 |
| | Part-time | | | | | | | | | | |
| **First Year Enrollments** | | | | | | | | | | | |
| 1st Professional: | Full-time | 104 | 73 | 88 | 62 | 90 | 60 | 100 | 50 | 105 | 45 |
| | Part-time | | | | | | | | | | |
| **Total Enrollments** | | | | | | | | | | | |
| 1st Professional: | Full-time | 290 | 94 | 369 | 85 | 375 | 75 | 375 | 75 | 375 | 75 |
| | Part-time | 1 | | | 1 | | | | | | |
| Graduate: | Full-time | | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| | Part-time | | | | | | | | | | |

*The potential increase in enrollment made possible by renovation of facilities is not reflected in this projection. The size of the potential increase has not yet been determined.

APPENDIX: TABLE 13

UNIVERSITY OF RICHMOND THE T. C. WILLIAMS SCHOOL OF LAW

STUDENT DATA REPORT

| | | ACTUAL | | | | PROJECTED | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1971-1972 | | 1972-1973 | | 1973-1974 | | 1974-1975 | | 1975-1976 | |
| | | In-State | Out-State | In-State | Out-State | In-Stat | Out-State | In-State | Out-State | In-State | Out-State |
| **Applications** | | | | | | | | | | | |
| 1st Professional: | Full-time | 565 | 99 | 781 | 351 | 446 | 417 | 430 | 396 | 420 | 390 |
| | Part-time | | | | | | | | | | |
| Graduate: | Full-time | | | | | | | | | | |
| | Part-time | | | | | | | | | | |
| **Acceptances** | | | | | | | | | | | |
| 1st Professional: | Full-time | 78 | 10 | 156 | 52 | 230 | 75 | 225 | 80 | 215 | 89 |
| | Part-time | | | | | | | | | | |
| Graduate: | Full-time | | | | | | | | | | |
| | Part-time | | | | | | | | | | |
| **First Year Enrollments** | | | | | | | | | | | |
| 1st Professional: | Full-time | 69 | 7 | 84 | 26 | 115 | 35 | 110 | 40 | 105 | 45 |
| | Part-time | | | | | | | | | | |
| **Total Enrollments** | | | | | | | | | | | |
| 1st Professional: | Full-time | 167 | 20 | 203 | 40 | 253 | 62 | 262 | 88 | 272 | 102 |
| | Part-time | | | | | | | | | | |
| Graduate: | Full-time | | | | | | | | | | |
| | Part-time | | | | | | | | | | |

# APPENDIX: TABLE 14

## UNIVERSITY OF VIRGINIA SCHOOL OF LAW

## STUDENT DATA REPORT

| | | | ACTUAL | | | | PROJECTED | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1971-1972 | | 1972-1973 | | 1973-1974 | | 1974-1975 | | 1975-1976 | |
| | | | In-State | Out-State | In-State | Out-State | In-State | Out-State | In-State | Out-State | In-State | Out-State |
| Applications | | | | | | | | | | | | |
| | 1st Professional: | Full-time | 724 | 2812 | 890 | 3372 | 1000 | 3500 | 1000 | 3500 | 1000 | 3500 |
| | | Part-time | | | | | | | | | | |
| | Graduate: | Full-time | 10 | 174 | 12 | 159 | 12 | 177 | 15 | 180 | 15 | 180 |
| | | Part-time | | | | | | | | | | |
| Acceptances | | | | | | | | | | | | |
| | 1st Professional: | Full-time | 190 | 299 | 219 | 364 | 220 | 360 | 260 | 360 | 240 | 375 |
| | | Part-time | | | | | | | | | | |
| | Graduate: | Full-time | 10 | 105 | 1 | 60 | 8 | 80 | 10 | 50 | 10 | 50 |
| | | Part-time | | | | | | | | | | |
| First Year Enrollments | | | | | | | | | | | | |
| | 1st Professional: | Full-time | 140 | 141 | 169 | 141 | 170 | 140 | 210 | 140 | 220 | 140 |
| | | Part-time | | | | | | | | | | |
| | Graduate: | | 2 | 13 | 1 | 16 | 3 | 16 | 4 | 16 | 8 | 16 |
| Total Enrollments | | | | | | | | | | | | |
| | 1st Professional: | Full-time | 455 | 463 | 466 | 427 | 480 | 420 | 550 | 420 | 590 | 420 |
| | | Part-time | | | | | | | | | | |
| | Graduate: | Full-time | | 35 | 1 | 22 | 2 | 20 | 3 | 20 | 4 | 20 |
| | | Part-time | | | | | | | | | | |

## APPENDIX: TABLE 15

## WASHINGTON AND LEE UNIVERSITY SCHOOL OF LAW

## STUDENT DATA REPORT

| | | ACTUAL | | | | PROJECTED | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1971-1972 | | 1972-1973 | | 1973-1974 | | 1974-1975 | | 1975-1976 | |
| | | In-State | Out-State | In-State | Out-State | In-State | Out-State | In-State | Out-State | In-State | Out-State |
| **Applications** | | | | | | | | | | | |
| 1st Professional: | Full-time | 229 | 598 | 344 | 1067 | About the same level as 1972-1973, or somewhat higher. | | | | | |
| | Part-time | | | 2 | | | | | | | |
| Graduate: | Full-time | | | | | | | | | | |
| | Part-time | | | | | | | | | | |
| **Acceptances** | | | | | | | | | | | |
| 1st Professional: | Full-time | 154 (total) | | 167 (total) | | 167 (total) | | 167 (total) | | 220 (total) | |
| | Part-time | | | | | | | | | | |
| Graduate: | Full-time | | | | | | | | | | |
| | Part-time | | | | | | | | | | |
| **First Year Enrollments** | | | | | | | | | | | |
| 1st Professional: | Full-time | 18 | 68 | 23 | 57 | 23 | 57 | 23 | 57 | 120 (total) | |
| | Part-time | 2 | | | | | | | | | |
| **Total Enrollments** | | | | | | | | | | | |
| 1st Professional: | Full-time | 78 | 173 | 81 | 180 | 81 | 180 | 81 | 180 | 290 (total) | |
| | Part-time | 4 | | 5 | | | | | | | |
| Graduate: | Full-time | | | | | | | | | | |
| | Part-time | | | | | | | | | | |

APPENDIX: TABLE 16

## PROFILE OF APPLICATIONS AND ACCEPTANCES: FALL 1973

### THE COLLEGE OF WILLIAM AND MARY
### MARSHALL-WYTHE SCHOOL OF LAW

| OVERALL UNDERGRADUATE GRADE POINT AVERAGE | LAW SCHOOL ADMISSION TEST SCORE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Below 300 | 300 349 | 350 399 | 400 449 | 450 499 | 500 549 | 550 599 | 600 649 | 650 699 | 700 749 | 750 and over |
| 4.00 3.75 | | | | 2/0 | 5/0 | 14/3 | 12/7 | 19/18 | 12/11 | 5/5 | |
| 3.74 3.50 | | 3/0 | | 5/0 | 17/3 | 30/6 | 29/12 | 39/30 | 29/22 | 5/5 | 1/1 |
| 3.49 3.25 | | 1/0 | 6/0 | 5/0 | 25/0 | 59/4 | 71/13 | 77/32 | 38/28 | 13/11 | 2/2 |
| 3.24 3.00 | | 1/1 | 9/1 | 14/1 | 32/2 | 62/0 | 102/2 | 96/26 | 43/21 | 10/9 | 1/1 |
| 2.99 2.75 | | 2/0 | 12/0 | 11/0 | 31/0 | 73/2 | 93/4 | 98/18 | 54/20 | 14/6 | 3/3 |
| 2.74 2.50 | | 3/0 | 6/0 | 12/0 | 26/1 | 55/2 | 69/1 | 69/3 | 49/2 | 11/2 | 2/2 |
| 2.49 2.25 | 1/0 | 2/0 | 9/0 | 8/0 | 20/1 | 21/0 | 43/1 | 56/2 | 22/0 | 7/0 | 3/0 |
| 2.24 2.00 | | 3/0 | 2/0 | 8/0 | 10/1 | 24/0 | 11/0 | 20/0 | 11/0 | 3/0 | 3/0 |
| Below 2.00 | | 2/0 | 1/0 | 2/0 | 3/1 | 5/1 | 9/0 | 8/0 | 1/0 | 1/0 | |

NOTE: In each box, the figure to the left of the slash represents the number of applicants. The figure to the right of the slash represents the number of such applicants who were offered admission.

## PROFILE OF APPLICATIONS AND ACCEPTANCES: FALL 1973

UNIVERSITY OF RICHMOND
T. C. WILLIAMS SCHOOL OF LAW

| OVERALL UNDERGRADUATE GRADE POINT AVERAGE | LAW SCHOOL ADMISSION TEST SCORE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Below 300 | 300 349 | 350 399 | 400 449 | 450 499 | 500 549 | 550 599 | 600 649 | 650 699 | 700 749 | 750 and over |
| 4.00 3.75 | | | | | | 4/4 | 2/2 | 4/4 | | | 1/0 |
| 3.74 3.50 | 1/0 | 2/0 | | 4/2 | 4/2 | 7/5 | 10/7 | 3/2 | 4/3 | 1/1 | |
| 3.49 3.25 | | | | 5/1 | 12/3 | 18/14 | 17/11 | 9/8 | 9/9 | 1/1 | |
| 3.24 3.00 | | | 4/0 | 10/0 | 26/4 | 33/32 | 45/27 | 29/27 | 11/8 | 2/2 | |
| 2.99 2.75 | | 1/0 | 2/0 | 11/1 | 27/4 | 43/6 | 53/24 | 35/16 | 15/13 | 3/2 | 1/1 |
| 2.74 2.50 | 1/0 | 1/0 | 5/0 | 9/0 | 29/0 | 35/2 | 42/9 | 19/9 | 15/11 | 2/2 | 1/1 |
| 2.49 2.25 | | 3/0 | 6/0 | 8/0 | 17/1 | 19/1 | 24/2 | 24/8 | 7/5 | 3/3 | |
| 2.24 2.00 | | | 4/0 | 9/0 | 14/0 | 14/0 | 13/1 | 13/2 | 7/3 | | |
| Below 2.00 | | | 1/0 | 1/0 | 2/0 | 6/0 | 9/0 | 2/0 | | | |

NOTE: In each box, the figure to the left of the slash represents the number of applicants. The figure to the right of the slash represents the number of such applicants who were offered admission.

'APPENDIX: TABLE 18

## SCHOOL OF LAW
## UNIVERSITY OF VIRGINIA

### PROFILE OF APPLICATIONS AND ACCEPTANCES*

| LSAT SCORE RANGE | 1972 | 1971 | 1970 |
|---|---|---|---|
| Over 700 | 60 | 53 | 41 |
| 650-699 | 118 | 77 | 107 |
| 600-649 | 71 | 84 | 85 |
| 550-599 | 36 | 44 | 39 |
| 500-549 | 13 | 13 | 15 |
| Below 500 | 12 | 10 | 9 |
| MEDIAN LSAT | 660 | 644 | 650 |
| MEAN GPA | 3.33 | 3.20 | 3.15 |
| CLASS SIZE | 310 | 281 | 295 |
| APPLICANTS | 4,262 | 3,536 | 2,710 |

*The University of Virginia School of Law does not report the standard LSAT format on applications and acceptances.

## PROFILE OF APPLICATIONS AND ACCEPTANCES: FALL 1973

### WASHINGTON AND LEE UNIVERSITY
### SCHOOL OF LAW

| OVERALL UNDERGRADUATE GRADE POINT AVERAGE | LAW SCHOOL ADMISSION TEST SCORE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Below 300 | 300 349 | 350 399 | 400 449 | 450 499 | 500 549 | 550 599 | 600 649 | 650 699 | 700 749 | 750 and over |
| 4.00 3.75 | | 1/0 | | 4/0 | 6/0 | 18/0 | 23/3 | 17/12 | 11/11 | 3/2 | |
| 3.74 3.50 | | | | 4/0 | 7/1 | 19/0 | 37/9 | 26/12 | 11/11 | 6/5 | |
| 3.49 3.25 | | | 1/0 | 8/0 | 16/0 | 43/0 | 75/4 | 61/27 | 26/19 | 9/9 | 5/5 |
| 3.24 3.00 | 1/0 | 1/0 | 2/0 | 9/0 | 13/0 | 34/1 | 40/1 | 58/19 | 20/10 | 8/8 | 2/2 |
| 2.99 2.75 | | 4/0 | 5/0 | 17/0 | 39/1 | 49/0 | 65/1 | 76/4 | 41/3 | 9/5 | 2/1 |
| 2.74 2.50 | 1/0 | 2/0 | 2/0 | 5/0 | 12/1 | 19/0 | 22/0 | 31/2 | 12/0 | 5/1 | 1/0 |
| 2.49 2.25 | | 2/0 | 7/0 | 2/1 | 11/0 | 13/0 | 21/0 | 24/0 | 14/1 | 6/0 | |
| 2.24 2.00 | 1/0 | | | 3/0 | 5/0 | 5/0 | 7/0 | 5/1 | 3/0 | 2/0 | |
| Below 2.00 | | | 1/0 | 2/0 | 3/0 | 4/0 | 13/0 | 6/0 | 2/0 | 1/1 | |

NOTE: In each box, the figure to the left of the slash represents the number of applicants. The figure to the right of the slash represents the number of such applicants who were offered admission.

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# II. THREE-YEAR DEGREE PROGRAMS

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# INTRODUCTION

The General Assembly Commission to Study Higher Education has requested the staff of the State Council of Higher Education to study and report on the desirability of instituting three-year baccalaureate programs in Virginia institutions.

There are several different understandings of three-year baccalaureate programs, some of which are more radical departures from traditional programs of study than others. The following discussion views this variation along the lines of a spectrum.

At the most conservative end of the spectrum, a three-year program consists of the same number of credits and has the same requirements as a standard four-year program, but is compressed into a shorter time period by carrying overloads or studying throughout the entire calendar year.

Next, and representing a small but significant departure from traditional American practice, the standard curriculum can be abbreviated by any one of several varieties of testing. A student could, for instance, get course credit for a satisfactory score on a College Level Examination Program (CLEP) test. At some institutions, students can "challenge" a course by taking the final examinations without taking the course. If they pass, they receive course credit. Still other institutions have credit-by-examination procedures which enable students to designate subject areas in which they wish to be examined for credit.

Another way to abbreviate the time-span of baccalaureate education is "advanced placement." There is a program administered by the Educational Testing

Service, designed to prepare high school students for advanced placement when they enter college. Frequently, the students are merely excused from required freshman courses, but are still required to complete a full standard baccalaureate program. Some institutions, however, give college credits along with advanced placement, thereby shortening the term of study to less than four years.

Another and more radical form of advanced placement is to establish programs on the high school level which will, in essence, give exceptional students their first year of college before they actually enroll in college. These students would then enter as sophomores, and have three years of more or less standard work left in order to receive bachelor's degrees.

At the far end of the spectrum is the proposal, advanced by some educational reformers that standard baccalaureate programs are obsolete and that baccalaureate education needs to be thoroughly reviewed and revised. In the process many sacred cows will be gored, as requirements once assumed to be essential are determined to be irrelevant; but the upshot will be a shorter and entirely different baccalaureate program.

Obviously, there are different combinations of forms of abbreviated baccalaureate programs; no one of the forms outlined here is likely to be found in a pure form. The point we wish to make, however, is that three-year baccalaureate programs can be highly innovative or fundamentally conservative.

As might be expected, advocates of three year baccalaureate programs offer different reasons why they are desirable. To some, it is a matter of resource utilization. The three year degree ensures a maximum utilization of capital investments in land and physical facilities. Operating costs will probably increase during any given fiscal year as a result of year-round operations. Personnel, general maintenance, and certain administrative expenses will also probably increase. On the other hand, standard contractual arrangements, equipment purchases and library holdings will become more fully utilized, thereby offering economies to the institutions, state, and the students. Although total annual expenditures might increase, economies resulting from more extensive use of facilities and services should result in lower per student costs to all concerned.

The report Less Time, More Options, published in 1971 by the Carnegie Commission on Higher Education, gave a major boost to the three-year degree and recommended major modifications in the structure of postsecondary education. The Commission suggested shortening the length of time in formal education. It argued that the traditional four year "lock-step" approach to the baccalaureate degree could be shortened to three years with the same degree of quality. The average length of time to a B.A. degree would initially be shortened to 3 1/2 years, on the average, and by 1980 to 3 years, if the Commission's plan were adopted.

The Commission proposed modifications in the structures of postsecondary education in the following ways:

> To shorten the length of time in formal education. We are convinced that the time spent on the way to the B.A. can be reduced now by one year for many, and subsequently most, students; time spent on the way to the Ph.D. and to M.D. practice can be reduced by an additional one or two years without sacrificing educational quality.
>
> To provide more options. We favor more opportunities in lieu of formal college and more stages at which college-going students can change direction, stop out to obtain non-college experience, and drop out with formal recognition for work accomplished.
>
> To make educational opportunities more appropriate to lifetime interests. We suggest more chances for reentry by adults into formal higher education, more short-term programs leading to certificates, and generally, more stress on lifelong learning. We oppose the sharp distinctions now made

> among full-time students, part-time students, and adult students. Education should become more a part of all life, not just an isolated part of life. An educational interlude in the middle ranges of life deserves consideration.
>
> To make educational opportunities more available to more people, including women, employed persons, older people, and persons from the lower income levels.

In the May 14, 1973, issue of the Chronicle of Higher Education there was an article by Philip W. Semars entitled, "3-Year Degree Not Catching On As Anticipated." The article noted that about 30 institutions have what are called three-year bachelor's degree programs and that another 20 programs are in the planning stages. According to Semars, however, the tremendous interest in the three-year program that has marked the past two years has decreased.

Semars presents three reasons for the failure of the three-year degree to be adopted as quickly as expected:

1. Faculties are concerned over the academic quality of the three-year degree.
2. Student interest is not as high as expected.
3. The three-year degree does not save individual colleges any money.

Semars noted that if those programs now in existence do become successful the three-year degree may begin to make more of an impact.

In the May 29, 1973 issue of the Chronicle, there were two "Letters to the Editor" criticizing Semars' article. Both letters were from institutions (the College of St. Francis and the University of the Pacific) that currently have three-year degree programs. The letters argued that shortening the time and reducing the money spent on a college education were only part of the total picture. They stressed the need for curriculum changes that are unique, rather than just the acceleration of the traditional four-year degree.

With the aid of a grant from the Carnegie Corporation of New York, the American Association of State Colleges and Universities and California State College are sponsoring an investigation of time-shortened baccalaureate degree programs. Questionnaires were sent to every accredited institution in the nation. The staff of the State Council contacted the Project Director, Dr. Robert Bersi, of California State College-Dominguez Hills, and will obtain a copy of the final report as soon as it is released. The next section of this report is a paper by Dr. Bersi entitled, "Restructuring the Baccalaureate: New Patterns and Old Campaigns." The paper presents an historical overview of the attempts to modify the structure of American higher education and current examples of time shortened degree programs. Because Dr. Bersi's paper is the most succinct treatment of the subject we have come across, we decided to include it in its entirety. Dr. Bersi has indicated that cost benefits analyses of selected three-year degree programs would be available this fall. The State Council staff will study these analyses to determine whether the programs actually do reduce costs to the state, the institutions, and the students.

# RESTRUCTURING THE BACCALAUREATE: NEW PATTERNS AND OLD CAMPAIGNS

by

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> "I see no advantage in our attempting to maintain the traditional four-year class system of the American colleges . . . the number four has nothing sacred or mystical about it. It is an accidental, not an essential, limit."--Daniel Coit Gilman, 1876, first president of Johns Hopkins University

The past hundred years and more in American higher education have witnessed repeated campaigns to modify the traditional four-year sequence of study leading to the baccalaureate degree. These efforts have been of two varieties: first, the attempts to reduce the four-year course to three years, and second, the attempts to dispose of the college entirely by assigning its first two years to secondary education and its last two years to university education. Five campaigns have been fought under the first plan: one each at Johns Hopkins, Yale, Cornell, Clark and Harvard. Seven campaigns have been fought under the second strategy: one each at Michigan, Minnesota, Cornell, Columbia, Stanford and finally, two at the University of Chicago.

## An Historical Overview

These dozen attempts to modify the structure of American higher education are only the most important of a much larger number. No attempt will be made here to discuss those efforts to divide the traditional college in half, though one is tempted to do so since some of the most colorful battles in American higher education were joined over this issue. (1)

Some strategists approached the structural revision of the four-year undergraduate sequence from a different point of view. These men, led by President Charles W. Elliot of Harvard University, claimed a deep affection for the American college and for liberal education. They believed, nevertheless, that the college should be reduced to a three-year curriculum, but beyond that they did not think it wise to tamper with it. The college per se had too much prestige and roots too deep in the affection of large numbers of Americans to seem a desirable target for attack.

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(1) The campaign to split the traditional four-year college at the middle was promulgated by such leading nineteenth and twentieth century educators as Presidents Henry P. Tappan of the University of Michigan, W. W. Folwell of the University of Minnesota, Andrew Dickson White and Charles Kendall Adams of Cornell University, David Starr Jordan and Ray Lyman Wilbur of Stanford University, and William Rainey Harper and Robert Maynard Hutchins of the University of Chicago.

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Since Daniel Coit Gilman, G. Stanley Hall and Charles W. Elliot and others of their associates felt so strongly about the college and liberal education and yet sought so persistently to reduce its course to three years, one must obviously discuss the reasons behind their efforts.

All the educational leaders of the mid-nineteenth century and thereafter recognized that above all else, American education needed universities and professional schools comparable to those of Europe. Until the establishment of Johns Hopkins in 1876, not a single university worthy of the name existed within our borders, and professional education languished in a sorry state of neglect and retardation. Between 1814 and 1915, ten thousand Americans earned their Ph.D.'s at German universities. No wonder that the leading educators of this period saw as their primary mission the development of American universities and the radical improvement of professional education. Gilman put his considerable energies to work founding Johns Hopkins University and, as its first president, set about developing it into the nation's first great research institution. Additionally, he inaugurated a three-year undergraduate baccalaureate program there which lasted for thirty years. A dozen years later, Hall organized Clark University as a strictly graduate institution. Meanwhile, under White's leadership, Cornell began its spectacular history as a great leader, both in graduate and professional education, and in Cambridge, President Elliot set out to transform Harvard, chiefly by means of the elective system, from a small college into a great university, making available strong and brilliant graduate instruction and reorganized and rejuvenated professional education.

In making these urgently needed changes in American higher education, these leaders continuously faced the problem of the place of the traditional four-year college. Some of them esteemed and wanted to hold fast to the values of liberal education, but they considered graduate and professional education to be no less important. Elliot, in particular, struggled with the problem at Harvard. In 1869, he had become president of what amounted to a small American college with several professional schools loosely attached to it. Believing fervently in the insistent need of advanced instruction in the scholarly disciplines and in the professions, and believing no less fervently that the undergraduate college should be preserved, he arrived at his three-year undergraduate curriculum as the solution of the Harvard problem. The fight that Elliot put up for the three-year college course at Harvard completely overshadowed those of his colleagues at other institutions. He began his drive for it in 1883 and never ceased fighting until his retirement in 1909. By 1906, the number of three-year graduates reached a peak of 41% of the graduating class. Elliot, however, met constant resistance to his three-year plan from faculty and from the Board of Overseers. Extra tuition charges were eventually imposed to reduce the number of three-year aspirants, and by 1929 the percentage of three-year graduates had declined to 5.8% of the graduating class. Thus ended Elliot's crusade for reducing the Harvard undergraduate curriculum from four to three years.(2)

## Renewed Interest in Time-Shortening the Degree

During the half century following Elliot's Harvard campaign, practically nothing was heard of the concept that the four-year college course sequence should be reduced. In recent years, however, serious discussion on the issue has begun anew. The publication of the Carnegie Commission report, Less Time, More Options, in 1971 evidenced a national interest in the purposes, goals and measure of undergraduate education. There appear to be various reasons behind the growing interest in again experimenting with the time frame of the undergraduate curriculum, to name a few: possibilities of increased efficiency and lower costs, elimination of curricular overlap, flexibility of program and attraction for students seeking fresh approaches to earning the baccalaureate degree. A review of current approaches to time-shortening the baccalaureate

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(2) The writer is indebted to Dr. W.H. Cowley, David Jacks Professor of Higher Education (Emeritus), Stanford University, for his contribution to the historical perspective of this paper.

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reveals a variety of designs.[3] The most prominent of these are listed below along with brief descriptions of some actual programs.

Reduction Through Revision of Degree Requirements

The State University of New York at Geneseo currently enrolls 450 students in its three-year baccalaureate program, and plans, by 1975, to enroll three-quarters of all entering students into the program. The degree is achieved by completing 90 semester hours of academic work. Entering students must successfully complete comprehensive examinations in the Natural Sciences, Social Sciences, and Humanites and Fine Arts, fulfilling the General Education requirements. Course work is then divided between major units (30-36), electives (54-60) and 3 hours of Physical Education.

The "Alternate College" of the State University of New York at Brockport is currently enrolling its first class of 300 freshmen into a totally redesigned B.A./B.S. program. Students pursue one of three major tracks: traditional, interdisciplinary or intercultural, or a contractual, individualized major. All majors are limited to 32-36 weeks of study. General Education has been compressed into a 32-week time frame, spread throughout the three years of the program. On the basis of proficiency examinations, pre-testing and advanced placement, students are counseled to enroll in an additional 32 weeks of electives. 90 semester units are required for graduation from the program.

The Small College of the California State College, Dominguez Hills, is an independent academic unit of the college, authorized to test new instructional techniques and combinations of subject matter within the context of a three-year baccalaureate. The program is designed to accommodate an heterogeneous student population possessing a wide variance in academic aptitudes. 150 first-year students are currently enrolled. Requirements for graduation conform to the 186 quarter unit requirements of the parent institution. The academic program is divided into three phases:

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(3) Thousands of highly motivated students accelerate their progress toward the degree by year-round attendance and course overloads. Such compression devices seem not to fall within the scope of legitimate time-shortened degree designs and therefore are not discussed.

General Education, Field of Emphasis, and Thematic Project. Acceleration toward the degree is achieved primarily through implementation of a modularized, competency-based curriculum. Additionally, the program utilizes such modes of acceleration as advanced placement, independent study and recognition of work experience for credit. Students demonstrating the required competencies in a subject matter area receive immediate credit and move on to other work. Testing out of modules is encouraged. A special feature of the program is the Mentor System--a comprehensive continuous advisement function which professionally involves each faculty member in the academic progress of 15-18 students.

Florida Technical University offers a "Credit Reduction Program" structured to eliminate duplication between high school and college courses. The program allows high school graduates who score 400 or more on the Florida twelfth-grade test, waivers on as many as 45 college-level required quarter hours, making it possible to achieve the baccalaureate degree after completing as few as 135 quarter hours of college work. Where equivalence exists between courses completed in high school and required university courses (particularly in the General Education area) and where the high school course has been completed with a grade of "B" or better, the university requirement including credit hours will be waived, reducing graduation requirements and curricular overlap.

Francis Marian College, in Florence, South Carolina, has developed a "Superior Student Program" which combines the freshman and sophomore years, allowing the student to complete a B. A. or B. S. degree in a minimum of six semesters. During the first year of study, each student is required to take two full-year interdisciplinary seminars from the three offered, each four hours a week for four credits. Additional course work is taken as a basis for developing a major interest. At the end of the first year of study, the student is expected to declare a major. The junior and senior years follow traditional course-work patterns for the major.

## Reduction by Cooperation Between High Schools and Colleges

Enrollment of high school students in college courses. Colleges and universities utilizing this technique arrange with surrounding school districts to allow qualified high school seniors to enroll in college level courses while completing their high school requirements for graduation. At the State University of New York at Fredonia, high school students take three on-campus college courses each semester and accumulate 18 college credit hours in the senior year of high school, which may be applied at Fredonia or transferred to another college. Furthermore, Fredonia will accept up to 12 additional credit hours of work for specified high school courses. Conceivably, a high school student could begin full-time college work at Fredonia with 90 semester units remaining for graduation.

Appalachian State University is proposing a training program to qualify high school instructors to teach college-level freshman curriculum to twelfth-grade students. Selected high school seniors will complete their freshman work in the program and be eligible for enrollment at Appalachian State as regular sophomores.

The State University of New York at Plattsburgh, in cooperation with Shaker High School and Hudson Valley Community College, has designed a curriculum taught by instructors from the Shaker faculty which offers high school seniors the opportunity of earning one full year of college credit before entering Plattsburgh or Hudson Valley Community College as second-year students.

Admission of twelfth-grade students to the first year of college as full-time students. The State University of New York at Albany admits qualified twelfth-grade students from a number of high schools in the state. During the first two years of collegiate work, the student completes the requirements for high school graduation and wins admission to junior standing. Students thus complete the requirements for both high school and college graduation in seven years. The curriculum is organized around "Man and His Institutions," an interdisciplinary study of the major institutional structures and processes of society.

At the University of Illinois at Urbana, an "Extended Early Admission Program" has been an option for the qualified high school senior since September, 1972. Selected students bypass their senior year and are admitted to the university without a diploma, to pursue a regular four-year college curriculum.

## Reduction Through the Award of Advanced Standing with Credit

The Carnegie Commission on Higher Education reported in 1971 that 50,000 high school students were earning credit each year for advanced standing in college, sometimes up to the equivalent of the first year of college/university work. The College Level Examination Program (CLEP) is used increasingly to award advanced standing to individual students for work taken at the secondary level evaluated in terms of collegiate norms. California State University at San Francisco in 1971 offered the CLEP examinations to all entering freshmen, qualifying a substantial number for advanced standing, and allowing some to shorten their bachelor degree programs up to one year. At Central Connecticut State College, students may earn up to 30 semester hours of credit by examination. In order to receive credit, a student must achieve a score equal to or higher than the national norm for the particular exam from the CLEP or any national standardized exam program. The "Faculty Scholars Program" at Florida Atlantic University uses CLEP to grant up to 45 quarter units of credit in Humanities, Natural Science, Mathematics, Social Science and English, providing the student completes a baccalaureate degree at the university. Newark State College, New Jersey, operates as a testing center for CLEP, offering the examinations at least once a month, to approximately 50 candidates. The college awards up to 30 semester credits for the general examination when a score in the 25th percentile or better is earned. Up to 15 credits will be accepted from the subject examinations with scores starting at the 50th percentile.

## Individualized Degree Programs

An increasing number of institutions offer highly motivated students individually tailored programs which allow them to graduate from college in less than three years. Trinity College of Hartford, Connecticut has developed an "Individualized Degree Program" based upon projects and examinations rather than course requirements. The College of New Rochelle has joined with New York's District Council 37 of the AFL-CIO to establish "DC-37 Campus," an evening program designed for the full-time working adult. Union applicants with a high school diploma, by attending two classes per week each trimester, earn 120 credits and the B.A. in less than three years. The California State College, Bakersfield, PACE (Personally Adjusted College Education Program) offers: self-pacing techniques, flexible modular scheduling, and opportunities to exhibit area competence through testing. Students progress toward the baccalaureate at a rate reflective of their abilities and past experience.

* * *

No claim is made that the foregoing constitutes an exhaustive list of time-shortening approaches. The programs cited are offered as a representational overview. Before concluding, however, certain obvious areas of concern should be identified for further discussion:

1. What consequences do radically restructured approaches to undergraduate education have for traditional faculty roles and responsibilities?
2. What appeal do time-shortened degree programs have for students, and what kind of student clientele benefit most from such programs?
3. Can reform in the baccalaureate program significantly reduce the operational expenditures for higher education?
4. Should such programs be required to design and implement a comprehensive process and product evaluation system?

# CURRENT ATTITUDES IN VIRGINIA TOWARD THREE-YEAR DEGREE PROGRAMS

Broadly defined, there are two kinds of three-year degree programs on the spectrum we have defined: those that compress the existing four-year curriculum into less time, and those that substantially change the traditional curriculum and in the process come up with a shorter program.

The staff of the State Council sent a questionnaire about the three-year degree program to the presidents of the four-year state-supported and privately-supported institutions in Virginia. The same questionnaire was sent to the members of the State Council's Continuing Education Advisory Committee. The questionnaire asked:

1. What are your attitudes toward the three-year degree programs in Virginia?
2. What are the advantages and disadvantages of a three-year degree program to the student, to the institution, and to the state?
3. Are there alternatives to the three-year degree program that have been implemented? If so, what are these?
4. If a three-year degree program was to be established, should a specialized curriculum and/or institution be established or should the three-year degree program be integrated with the regular offerings of existing institutions?
5. Would your institution be interested in initiating such a program?

All of the respondents were favorably disposed toward compressing the four-year curriculum into three years, whether by credit examinations, overloads, year-round study or other means.

On the other hand, changing the traditional curriculum and coming up with a three-year degree program that requires fewer total hours of college-level study met with considerable resistance. Twenty-two of thirty-nine respondents, or 56 percent, were unfavorably disposed toward this idea. Presented below is a breakdown of the responses toward the more radical approach to the three-year degree.

| | Favorable | Not Favorable | Total |
|---|---|---|---|
| Presidents (public) | 7 | 9 | 16 |
| Presidents (private) | 7 | 8 | 15 |
| Members (CEAC)* | 3 | 5 | 8 |
| Total | 17 | 22 | 39 |

*Continuing Education Advisory Committee

Presented in the Appendix are some of the respondent's comments to Question #1.

The responses to Question #5 show virtually the same attitudes. Again, all of the respondents were favorably disposed to initiating programs that compressed the four-year curriculum into three years by selected means; many noted that their institutions already offer such options.

Twenty-three of thirty-seven respondents were not favorably disposed toward introducing a modified three-year curriculum on their campuses. Only eleven of thirty presidents or 37 percent indicated a willingness to initiate such a program. Presented below in tabular form are the responses to the following question: Would your institution be interested in initiating such a program?

| | Favorable | Not Favorable | Total |
|---|---|---|---|
| Presidents (public) | 6 | 9 | 15 |
| Presidents (private) | 5 | 10 | 15 |
| Members (CEAC) | 3 | 5 | 8 |
| Total | 14 | 24 | 38 |

Presented below are some comments from the respondents regarding

Question #5:

"[This institution] would not be interested in initiating a special three-year program for the generality of undergraduate students. We offer the opportunity now and will continue to encourage three-year programs for able students, worked out individually in consultation between the student and his or her adviser."

"Yes. [This] college has been during the past year exploring new approaches to education and is interested in initiating a three-year baccalaureate program."

"[This institution] would not be interested in implementing a three-year degree program that would change the nature and meaning of our baccalaureate degree and lower standards for the attainment of a bachelor's degree."

"I am in favor, not so much of initiating such a program, but of examining closely what exactly is meant by the term three-year program, what it is supposed to do for student and institution, and what kind of curriculum will achieve these goals.

Each respondent was also asked to list the advantages and disadvantages of a three-year degree program to the student, to the institution, and to the State. These advantages and disadvantages refer to the three year degree programs which are more radical departures from the traditional approach.

The respondents identified these advantages to the institution:

1. more effective and efficient use of educational resources
2. reduce number of courses offered
3. enrollment during summer term will increase and year-round utilization of faculty and facilities
4. academic stimulant

5. for institutions with more applicants than they accomodate, this approach may provide some help

They identified these disadvantages to the institution:

1. faculties are concerned over the possible decrease in academic quality

2. less flexibility in programs and in course offerings

3. difficulties in providing adequate counseling and testing services

4. difficulties in providing adequate learning experiences in technical, sequential curricula

5. little time for renovation and high order maintenance of facilities, which may wear out more quickly

6. logistical problems: scheduling, change in credit hours, etc.

The respondents identified these advantages to the student:

1. enables student to finish baccalaureate degree sooner and find employment or attend graduate school

2. reduces cost in obtaining a baccalaureate degree

3. enables outstanding student to function at the level of his potential, thereby more nearly fulfilling his self-actualization needs

They identified these disadvantages to the student:

1. additional pressure

2. may accelerate into a major field of study without adequate time to make a satisfying choice

3. articulation between Community Colleges and three-year programs

4. students may not have summer vacation period to earn money to finish their educations

5. many students need the extra year in which they can mature

6. little time for contemplative reflection

7. some extracurricular activities may have to be eliminated

The respondents identified these advantages to the State:

1. savings of one year's educational cost per undergraduate student
2. many students can become taxpayers one year earlier
3. more students can be accomodated each year in existing physical facilities
4. may be able to keep some Virginia residents from going to states that do have such programs

They identified these disadvantages to the State:

1. puts students on job market at an earlier point in the maturation process
2. may see greater demand for the more expensive graduate programs
3. creates excess labor supply

In summary, the respondents generally felt that the three-year degree programs could benefit the student from an economic point of view. However, the possible economic benefits gained by the student and State may be overshadowed by the reduction in quality of the academic programs.

The last question asked was, "If a three-year degree program was to be established, should a specialized curriculum and/or institution be established or should the three-year degree program be integrated with the regular offerings of existing institutions?" The following table summarizes the answers.

| | No Answer | Special Curriculum in Exist. Institution | Specialialized Institution | Reg. Off. of Exist. Inst. | Total |
|---|---|---|---|---|---|
| Presidents (public) | 1 | 4 | -- | 11 | 16 |
| Presidents (private) | 1 | 4 | 1 | 9 | 15 |
| Members (CEAC) | -- | -- | -- | 8 | 8 |
| Total | 2 | 8 | 1 | 28 | 39 |

Here again, the overwhelming preference is to retain the standard curriculum and to shorten the time by making it possible for students to do the same thing more quickly.

## SUMMARY AND RECOMMENDATIONS

A three-year degree program as envisioned by the Carnegie Commission implies a complete change in the traditional four-year degree structure. Most of the respondents to the State Council staff's inquiry regarding the three-year degree program did not favor a change in the requirements of the traditional baccalaureate degree. A number of respondents, however, felt that three-year degree programs might provide the options needed by some students.

Sixteen four-year state supported institutions responded to the questionnaire. All sixteen respondents favored the conservative approach (traditional four years into less time) for shortening the time toward obtaining a baccalaureate degree. The fifteen private institutions responding also favored this method, as well as the eight respondents from the Continuing Education Advisory Committee. Forty-four percent of the four-year state supported institutions, 46 percent of the four-year private institutions, and 38 percent of the members of the Continuing Education Advisory Committee responded favorable to the possibility of substantially changing the traditional four-year structure in order to offer a three-year degree. Overall 42 percent favored this method.

The staff of the State Council of Higher Education submits the following recommendations regarding the three-year degree programs:

1. The opportunity for qualified high school students to take college level work for credit should be promoted on a statewide basis. Increased emphasis on advanced placement of qualified students should be provided,

and credit by examination should be recognized as a major device to enable students to expedite their undergraduate work. Students (both at high school and college level) should be provided adequate opportunities for year-round study which will enable them to complete their degrees in less time.

2. Only institutions which presently confer baccalaureate degrees should be authorized to introduce three-year degrees.

3. The State Council should invite all four-year state-supported and private institutions interested in the three-year degree program to prepare and submit proposals for such programs to it by July 1, 1974. Such proposals should be in accordance with guidelines that will be developed and promulgated by the State Council.

4. The 1974 General Assembly should appropriate $60,000 to the Governor's Budget - Supplementary Aid for Higher Education. The money will be used to fund the detailed planning and implementation of two proposals selected by the State Council. The Council will select two approaches that are as divergent as possible and will attempt to select one state-supported and one private institution with which to contract for detailed planning and implementation. Comprehensive evaluation of the two pilot programs will be carried out by the institutions themselves, assisted by Council staff. These reports will be made available throughout Virginia's higher education community to assist other institutions which may elect to introduce such programs.

5. Continuous review of existing programs in other states, and a careful review of the needs and possible approaches to fulfilling those needs in Virginia, should be conducted by the State Council staff.

# Appendix

Some comments of respondents regarding Question #1.

Question #1: What are your attitudes toward the three-year degree program in Virginia?

- "I do not think that more than a mere handful of institutions are trying it, and I would certainly take a strong position that it could not be done without destroying the quality of education. If it is just the matter of giving it within a shorter time, we are already doing that. We offer up to almost two years of potential credit through CLEP exams."

"My own personal advice to a student would be not to do it. I did it myself back during the war, and I find it becomes very difficult to continue to do really good scholarship on that type of intensive basis. Some time for digestion, reflection, maturing and resting of the brain cells turns out to be pretty sound advice."

"A very innovative and flexible idea which would definitely be to the advantage of the good student if the fields for such endeavor were restricted to a bare minimum."

"The responsible academic officers at [this institution] consider a three-year baccalaureate program as a valuable alternative for the limited number of students who enter the College with a substantial amount of credit through Advanced Placement or who through CLEP examinations or by both means can demonstrate competence in subjects equivalent in scope and intensity to courses now offered by the [institution]. Graduation in three years is also a possible alternative for students who, through carrying reasonable overloads during the regular sessions and through courses taken in summer school, can sufficiently augment the courses necessary to meet the regular requirements for graduation. [This institution] currently has some persons receiving their baccalaureate degree in three years through one or a combination of these methods."

"Two characteristics of [this institution's] student body largely determine the institution's response to a three-year bachelor's degree. Approximately 80 to 85 percent of the students in attendance are employed, some 65 percent thirty or more hours per week; outside employment clearly plays a major role in limiting the amount of academic credit the average student at the University could be expected to earn in any three or four year period. In a 1971 study of approximately 1000 [of our] graduates, it was discovered that only about one-third of the graduates had earned their degrees in four years (or less) and very few in less than the four-year period; two-thirds took more than four years to finish."

"The three-year degree program should be developed as an integral part of the system of higher education in the Commonwealth of Virginia. Furthermore, this accelerated program can be undertaken without adversely affecting the academic standards of the institutions and without sacrificing the quality of education."

"Admission to a three-year program should be contingent upon adequate educational and career counseling. Three-year programs should be developed on a curriculum by curriculum basis instead of across-the-board."

"I believe that recent moves to reduce the number of credit hours constituting a maximum allowable load for a quarter or semester has had a deleterious effect on our current baccalaureate degree programs."

"I support strongly the use of advanced placement techniques as there is absolutely no justification for requiring students to repeat educational experiences they have already had. Such requirements waste both the student's time and the resources of our educational institutions. Further, I strongly support more extensive summer programs to facilitate accelerated degree completion where it is in the best interest of the student."

"We are not interested in lowering the number of hours that are required for a degree and we are not interested at this time in trying to accelerate our students through a four-year program in three years. As the Dean of our College has stated, we don't recommend that a football game be cut down to three quarters nor do we recommend that a baseball game be shortened to seven innings."

"I would be opposed, however, to creating a three-year program by simply eliminating some 25% of the course credits presently required for a baccalaureate degree unless a new degree was created in recognition of completion of such a program."

"There are undoubtedly a number of students -- exactly how many is a figure impossible to predict -- who would be interested in, and would make very good use of, a three-year option to a baccalaureate degree. Assuming that such an option could be made consistent with a university's mission, general educational responsibility, and fiscal capabilities, I believe it would be a very good thing."

"It depends upon what exactly is meant by a three-year degree program. If one goes all the way with the more extreme proposals and suggests a program in which the average student working the average number of weeks per year can complete his program in three years with less class time and fewer credit hours than are presently required in a baccalaureate program, then I must say that I do not see the advantages of establishing such programs in Virginia. If, on the other hand, one is speaking of a flexible program which allows the superior student or the highly motivated and hard working student to complete a baccalaureate degree in three years without changing the meaning of the degree, than I am all for it."

"From the point of view of my own concern with the liberal arts and its relation to total education, I would favor accelerated programs which would permit the retention of more traditional academic pursuits combined with specialized training. I am suggestiong, for instance, that we might produce doctors and dentists in seven years and lawyers in five or six. All of this is, of course, predicated on an assumption that acceleration is the "wave of the future" and a good thing in itself -- an assumption that I am not certain I think is necessarily good or valid."

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# III. DESIRABLE SIZE OF STATE-SUPPORTED COLLEGES AND UNIVERSITIES IN VIRGINIA

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# DESIRABLE SIZE OF STATE-SUPPORTED COLLEGES AND UNIVERSITIES IN VIRGINIA

## Introduction

The growth in the number and size of colleges and universities in the last three decades is a fact which has been well documented. During that period enrollments increased by over 500 percent and the number of institutions of higher education increased by over 40 percent. More important however, to the concern of this discussion, is the fact that average institutional size increased from about 900 students in 1940 to approximately 3,200 students in 1970, an increase of approximately 255 percent. With the comparatively small increase in the number of institutions during a period of such tremendous growth in enrollment, an increase in the average size of institutions of higher education had to occur. By the early 1970's, therefore, American colleges and universities varied widely in size all the way from colleges with less than 100 students to huge universities with 40,000 to 50,000 students.

In the past two decades there has been a substantial amount of research on the topic of institutional size. There have been attempts to determine (1) defensible minimum enrollment for effective operation, (2) the maximum enrollment which ought to be allowed, and (3) the range of sizes which best facilitate high quality education at the most favorable cost. These attempts have grown out of concerns that institutions may be too small to be economically operated, or too large to be manageable, and that the impersonal character of large institutions might be related to personal dissatisfaction and student disturbances. In addition there are considerations which involve policy decisions within particular systems of higher education.

States have examined, and in some cases adopted as matters of policy, enrollment constraints for institutions. This has often been done in the belief that quality education is best obtained in institutions that do not exceed a certain size, in order to disperse college programs and facilities throughout the state rather than concentrate them in a smaller number of locations, or in order to provide new types of institutions rather than to promote the growth of older ones.

"Optimum size" has been defined as that enrollment at which maximum effectiveness as an educational unit is achieved within the limits of available or projected financial, physical, programmatic, and staff facilities.[1] In a more simplistic definition Arthur Chickering notes that a college should be "big enough to have a ball game, and small enough so all can play."[2] There seems to be general agreement that a college or university should be large enough to encourage the development of high quality programs which are sufficiently diverse to enable it to maintain both the quantity and quality of its student body. It is not possible, however, to prove that any particular size represents an "optimum" for institutions of a type, or even for an individual institution. The optimum size of an institution of higher education is determined by its purpose, its role and function, and its range of programs. The more modest its plans and the more limited its programs, the more likely it will be able to achieve quality at reasonable cost with only moderate enrollments. Each expansion of role and addition to program increases the minimum number of students needed for effective operation.

The establishment of ideal size requires that the desired economic and organizational characteristics as well as interpersonal relationships between and among faculty and students be specified. Noted as being important in this respect, in addition to considerations of size itself, are what other measures an institution takes to provide environments for learning which are uniquely filled to the needs of its students. John Gardner has commented effectively on this point.

> I have been surprised by the censorious tone with which some critics now refer to large institutions, almost as though in growing to their present size these institutions had deliberately chosen to do an evil thing. This is ridiculous. The critics may, if they wish, attack the American people for being so numerous and fertile. They may, if they wish, attack the society generally for holding such a liberal view concerning who should go to college. But they should not attack institutions that are simply trying to accomplish a well-nigh impossible task the society has handed them. The institutions being scolded for largeness today are the ones that have been most responsible to the American eagerness to broaden educational opportunities. We should have the grace to live with the consequences of our choices.[3]

There would, in general, appear to be several advantages to establishing specific numerical sizes for colleges and universities. When a college plans its programs, facilities, staffing, and medium or long-range development with a specific size target in mind it can avoid costly changes, whether in steam lines or in library additions, and thus achieve greater quality with resources which will always be limited in relation to need. From the overall state perspective, planning for a total system which will meet the needs of the people can proceed only on the basis of a common understanding of how large individual institutions should plan to be. More effective services can be provided and wasteful moves avoided if the sizes of existing institutions are planned in conjunction with their programs. Thus, though a specific size cannot be proven "right," it remains advantageous both to the state system as a whole, and to each individual institution that target sizes be established for planning purposes. They should be established on the basis of the best evidence available at that time.[4]

In establishing size concepts for colleges and universities, however, it should be understood that they should be subject to review and modification on the basis of new evidence. Size concepts are planning concepts, and while they may represent the best possible decision at any given moment, the numbers should remain subject to change in the face of changing circumstance and need.[5]

A review of the literature suggests that the question of size or "optimum" size for institutions of higher education should be considered from the separate but sometimes related and competing viewpoints of accountability, excellence, and accessibility. In addition, size should be addressed in terms of the type of institution being planned, such as whether it is a two-year college, a liberal arts college, a comprehensive college, a doctoral-granting institution, or a specialized institution.

## 1. Institutional Size and Accountability

In the early 1970's the term accountability became fashionable in education. The term is synonymous with responsibility and has come to mean that the outcomes provided by the educational enterprise should be evaluated in relation to the cost of obtaining those objectives. Accountability is concerned with both effectiveness and efficiency. Under institutional size and accountability are considered such things as economies of scale and at what point efficiency is maximized in relation to academic effectiveness.

With the tremendous increase in educational expenditures in recent years, the economics of higher education has captured the attention of social scientists and educators alike.[6] The general interest in examining the economic efficiency of colleges and universities included attempts to look at economic aspects of institutional size. Frederick Taylor encouraged the belief that academic efficiency could be improved by employing the cost effective methods of industry. This led to the development by accrediting agencies of quantitative standards for higher education institutions which specified the number of academic departments, faculty, or library books required for accreditation. These standards made some allowances for differences in enrollment.

One of the first systematic attempts to relate size and costs was the examination of the relationship between the size of an institution and the amount of money expended per student made by John Dale Russell and Floyd Reeves in their study of higher education finance published in 1935. The study concluded that expenditures per student varied inversely with the size of the institution.[7]

In more recent years research has been directed at examining the appropriate size for certain types of institutions. A study conducted in the period 1961-64 by

Gustave Metz examined and compared fund expenditures for each of four basic categories among 390 member insitutions of the Southern Association of Colleges and Universities. These institutions offered instruction at the junior college, bachelor's, master's, and doctoral levels and varied in size. It was demonstrated

> (1) that the offering of higher degrees is associated with higher expenditures per student, (2) that larger enrollments are associated with lower expenditures per student, provided the highest degree level of institutional offerings is the same, and (3) that these two factors counteract each other. Thus, no overall relationship was found between enrollment and expenditure when all institutions were included in the same analysis.[8]

More recently the Carnegie Commission on Higher Education has concluded, with some qualifications, that there is an optimum range for each major type of institution of higher education. Colleges and universities which are too small cannot operate economically, while beyond a given size, there may be minimal additional economies which are offset by increasing difficulties in administration. The Commission concludes that colleges will run a risk of failing to take advantage of economies of scale or not offering students an adequate choice of programs if they do not reach the minimum enrollments listed below:[9]

| | Minimum Enrollment | |
|---|---|---|
| | Headcount | FTE |
| Two-Year Institutions | 2,500 | 2,000 |
| Liberal Arts Colleges | 1,100 | 1,000 |
| Comprehensive Colleges | 6,000 | 5,000 |
| Doctoral-granting Institutions | 5,900 | 5,000 |

The earliest statewide effort to establish size guidelines for institutional and system-wide planning was made in the California Master Plan of 1960. The Coordinating Council for Higher Education modified some of these numbers in 1964 and omitted any reference to "optimum size." It did provide ranges in which the minimums appear to be based upon sizes at which economies of scale begin. These minimums are as follows:[10]

| | Minimum Enrollment<br>Full-Time Students |
|---|---|
| Two-Year Institutions (This number could be changed if either isolation or density of population warrant) | 900 |
| Comprehensive Colleges | |
| In densely populated areas | 5,000 |
| Outside such areas | 3,000 |
| Doctoral-granting institutions | 5,000 |

In addition to studies which have presented size concepts for several types of institutions, a significant number of individual studies have examined the economic aspects of one specific type of institution. Studies of the cost in liberal arts colleges have included the "Sixty College Studies," initiared in 1953-54[11] and repeated in 1957-58.[12] Among the conclusions arrived at by "The Sixty College Studies" were that an increased percentage of funds were expended for general administrative services as the size of institutions decreased from 1400 or more to the 200-600 student range and that those same institutions were correspondingly able to devote a larger percentage of funds to instruction and specialized educational facilities as size increased from 200-600 to 1400 or more.

H.H. Jenny and Richard Wynn have also made several generalizations about the relationship between the absolute size of enrollment and the growth of income and expenditures in a group of 48 liberal arts colleges noting that:

> . . . first, the smallest colleges in the group tend to have high full-time-equivalent student (FTES) costs; thus one must be able to afford to be very small. Second, the overall FTES cost curve for the sample seems to be mildly downward sloping. Third, colleges with enrollments of 1,300 and more students seem to

> have below average FTES costs. Fourth, enrollments of 1,500 or more seem to produce both relatively low FTES costs and ample budgets, and we could view these colleges as economically more efficient. A larger sample might have produced a different result.[13]

There have been a number of other studies in which economists have concluded that the enrollment of a liberal arts college should be between 1,000 and 2,000 students in order for it to maintain economic viability.

Research on the ideal size for larger institutions, particularly universities, has been more limited. It has been inhibited by the unavailability of comparative data on these more diverse and complex institutions. A tentative recommendation has been offered by Arthur Browne who states that the optimum size of a large institution in terms of unit costs is between 12,000 and 15,000 students. Browne observed:

> When institutions expand beyond that figure [12,000-15,000] they usually strive to become comprehensive Universities with extensive doctoral programs and research units. Beyond this point, the university changes its complexion. Divisions become professional schools or colleges. Several libraries break out among these professional schools instead of housing all volumes under one roof. Public service and extension activities escalate. The more expensive habits of the more prestigious universities are required. . . The moral: you must commence new institutions to siphon off enrollments when existing institutions reach 12,000 students or else you have another large, comprehensive, highly competitive university on your hands which competes with the "dominant" or established university for supremacy on the academic totem pole.[14]

It should be noted that many authorities, including the Carnegie Commission, do not agree with Browne's strictures on institutional size. Four institutions in Virginia exceed or will approach the size range specified by Browne: University of Virginia, Virginia Polytechnic Institute and State University, Virginia Commonwealth University, and Old Dominion University. Of these, two are recognized as comprehensive universities with heavy emphasis on doctoral programs. Old Dominion University does not project growth beyond 15,000 students, and Virginia Commonwealth University exceeds 15,000 students, but neither should seek to become a comprehensive university with heavy emphasis on doctoral programs. It is the opinion of the State Council staff, however, that Virginia Commonwealth University should not be limited in size to the range suggested by Browne, and should be allowed to develop as planned through 1982 (18,400 FTE enrollment).

## II. Institutional Size and Excellence

Excellence refers to the quality of the educational experience and the environment in which it is provided. An optimum size or size range for each type of institution cannot be determined on the basis of economies of scale and efficiency alone. Mentioned in the preceding section was the need for an institution to be large enough to offer its students an adequate choice of programs. Consideration must be given to the number, variety, and levels of academic programs to be offered and the number of students required to justify the numbers of faculty employed to provide such programs. For example, in the case of comprehensive colleges, the Carnegie Commission takes the position that there appear to be only minor net economies of scale beyond approximately 2,500 FTE enrollment, but that an enrollment base of about 5,000 FTE is necessary to offer a truly comprehensive program.[15]

Those in favor of the advantages thought to be offered by large institutions assert that the multipurpose university is actually a total community that has as citizens all kinds of students who contribute to the educational climate and provide a variety of experiences. There are others who hold the position that, in a very large institution, neither students nor faculty have a full sense of belonging to an academic community. This may be one of the reasons why disruption in recent years has been found to be more prevalent on very large campuses than on smaller campuses. A survey of what happened on campuses following the Cambodian incursion of May, 1970, indicated that the proportion of campuses reporting that it had a "significant impact" on campus operations varied directly with the size of institutions--from 41 percent of those with less than 1,000 students to 90 percent of those with more than

12,000 students.[16] Other researchers, however, have pointed to factors other than institutional size which have correlated more highly with student protest activities. Among these factors are the amount of federal grants received, high admission standards, the control of the institution, the type of institution, and the particular issue which was involved.

The Carnegie Commission has asserted, however, that an institution may become too large to provide an intellectually challenging environment for many students. Moreover, beyond a certain size additional enrollment increases are not likely to contribute to increased quality. The Commission asserts that although economies of scale analysis is helpful in suggesting minimum enrollments, it does not provide a basis for determining appropriate maximum enrollments. A campus may become too large to provide an intellectually challenging environment for its students before it reaches the point of diminishing economic returns to additional enrollment. Based on what it sees as the disadvantages of excessive size, the Commission advances the following maximum enrollments, recognizing that special considerations in individual situations may be a basis for modification:[17]

| | Maximum Enrollments | |
|---|---|---|
| | Headcount | FTE |
| Two-Year Institutions | 6,200 | 5,000 |
| Liberal Arts Colleges | 2,700 | 2,500 |
| Comprehensive Colleges | 12,000 | 10,000 |
| Doctoral-granting Institutions | 23,500 | 20,000 |

In addressing the question of institutional size, most social-psychological literature which focuses on institutional size appears to favor the environments associated with the smaller institution. Just how small "small" is, however, is generally undefined. David Riesman states that an institution is too big when the students look at the faculty and say "they" and the faculty in looking at the students does likewise.[18] Alan Baitin notes that:

> Size is a major but ambiguous attribute of the social structure of organizations. Size itself has certain necessary, formal consequences for the possible range of interpersonal relations, of communication links, and of levels of authority as conditioned by spans of control. In any given study, classifying organizations by size also classified them by certain kinds of communication, authority, and social relations patterns which are its consequences and in turn have other effects; it is by no means easy to say what intervening variables or incidental correlates size indicates.[19]

Nevitt Sanford also declines to note specific size categories. He sees ideal institutional size for the individual student as relative, varying inversely with the variety of students admitted.

> If the group is heterogenous, a smaller number would allow people to get to know one another more easily, but if it is less various, a larger number would help to increase the diversity. Similarly, if all students share a single curriculum, the institution can safely be larger than if they do not, for a core of common learning tends to pull them together. What the student needs is the social support of a group that is sharing his attempt to re-examine values and to entertain ideas seldom thought about--or even opposed--back home.[20]

Harold Hodgkinson acknowledges that large colleges and universities are commonly accepted as providing more options for individual participation. He notes, however, that a number of studies of size in schools, factories, public agencies, task forces, and discussion groups have indicated a negative relationship between size and individual participation, involvement, and satisfaction. Hodgkinson favored a smaller setting where, he concluded, individuals generally experience greater motivation and satisfaction in belonging to the small group.[21] Other psychologists, particularly Arthur Chickering, have adopted the position that institutional size is a prime factor which may enhance a student's personal development. Institutions enrolling less than 1,000 students are regarded as more likely to provide clarity of purpose and opportunities for personal participation, involvement and satisfaction. The basic point made is that any given campus has only a given number of behavior settings which provide opportunities for growth. Although larger institutions are likely to have twice as many settings, they may also have 60 times as many students. Too many people and too few positions is what Chickering terms "redundancy." Such "redundancy" is likely to result in decreased opportunity for self-development.[22]

The probable effect which size has upon the learning environment is another aspect of institutional size which has been examined. Wilbert McKeachie and Edward Bordin have argued that large institutional size will have a negative effect upon a faculty member's enjoyment of his profession. They noted that increased class size, shown in other studies to be associated with increased institutional size, limits the instructor's choice of techniques as well as his ability to select the method best suited to his objective, or to vary his methods.[23]

The quality of the learning environment from the student's standpoint has also been the concern of researchers such as Wilbert McKeachie who hypothesized that:

> Size of an educational institution has a . . . relationship to the quality of education students receive from one another. The large institution with a student body of heterogeneous background offers students an opportunity to gain breadth, tolerance, and new perspectives from their contacts with one another. But large size is likely to reduce educational values by reducing intellectual interchange between students. In a large college, the statistical chances that another student in the same class will be in the same living group are smaller than in a small college. Students in a large college with many courses, and even many sections of the same course, have few common intellectual experiences. Consequently, it is difficult for them to communicate about intellectual problems outside of class.[24]

## III. Institutional Size and Accessibility

In the Introduction to this discussion, a number of factors were outlined which are related to the question of accessibility and statewide policy for systems of higher education. A state may wish to place enrollment constraints or maximums on institutions in order to disperse college programs and facilities throughout the state rather than concentrate them in a limited number of places, or to promote the development of new types of institutions with different admissions requirements and academic programs. There is every reason to believe that such measures provide greater accessibility to higher education.

At least partially, such statewide considerations were the basis for the maximum enrollments set forth by the Coordinating Council for Higher Education in California in 1964. These maximums were based in part on the recognition that prospective enrollments were rising rapidly and had to be accommodated, but that excessive growth at individual institutions was not desirable. These maximums were as follows:[25]

| | Maximum Enrollments<br>Full-Time Students |
|---|---|
| Two-Year Institutions | 5,000 - 7,500 |
| Comprehensive Colleges | |
| In densely populated areas | 17,500 - 20,000 |
| Outside such areas | 9,500 - 12,000 |
| Doctoral-granting Institutions | 25,000 - 27,500 |

Clark Kerr is also a proponent of having a fairly large number of campuses growing at moderate rates rather than a small number forced to grow rapidly and to become exceedingly large. He recommends enrollment ranges of 2,000 to 5,000 for community colleges, 5,000 to 10,000 for comprehensive colleges, and 10,000 to 15,000 for universities.[26] It would appear, however, that his recommendations are based on his evaluation of economies of scale and the quality of the learning environment, as well as on accessibility.

It should be noted that dispersement of institutions across a state in order to provide accessibility should take into consideration available sites and the communities in which they will be located. The impact of the institution's size upon the community with respect to physical elements such as commercial facilities, streets, and utilities, and also with respect to the more subjective components of a "style of life," are important considerations in planning for the eventual size of the institution. Obviously, a college of 10,000 or more places a burden on a small, local community to provide the basic services, traffic control, water, sewage disposal, and public accommodations in general.

## IV. Institutional Size Concepts in Comparison to Projected Enrollments in Virginia

Before summarizing institutional size concepts by type of college of university, it is important to note that a number of states have followed the early lead of California by studying questions relating to size and in some instances have established size planning guidelines for master planning. A task force drawn primarily from colleges and universities appointed by the coordinating board in Illinois (1966) declined to state optimum sizes for institutions, but advised that new four-year commuter colleges should be established only if they would attain 2,500 FTE within four years and 5,000 FTE within eight.[27] The provisional master plan in Tennessee (1969) calls for a minimum size for state colleges of 3,000; it calls for a maximum size for the University of Tennessee (Nashville) of 27,000 to 28,000, and for Memphis State University at 25,000. The Texas master plan (1969) proposed no minimum or maximum size for state colleges, but its recommendation for the establishment of six new baccalaureate institutions assured that each of the six would enroll at least 2,000 (headcount) students by the third year of operation. In the third year the median size of these six colleges would be 3,900. For universities, no general size criteria were proposed, but limitations were established for the University of Texas (Austin) at 35,000 and for the University of Houston at 30,000. Studies in Missouri and Michigan suggest a minimum of 3,000 FTE for four-year colleges.[28] The Coordinating Council for Higher Education in Wisconsin has proposed to limit the size of the University at Madison at 42,000 students.

In the two-year sector, California's present guideline for a minimum of 900 full-time students is comparable to that of Texas (1,000 FTE by the fifth year). It is substantially larger than the minimum figure of 500 in Minnesota, but both California and Texas coordinating boards have recognized the need for exceptions to their larger numbers, in order that relatively sparsely settled areas might be accommodated.

Summary of Size Concepts for Two-Year Institutions

| | Minimum | | Maximum | |
|---|---|---|---|---|
| | Headcount | FTE | Headcount | FTE |
| Carnegie Commission | 2,500 | 2,000 | 6,200 | 5,000 |
| California Coordinating Commission | 900[a] | -- | 5,000-7,000[a] | -- |
| Clark Kerr | -- | 2,000 | -- | 5,000 |
| Texas Coordinating Board | -- | 1,000 | -- | -- |
| Minnesota Coordinating Commission | -- | 500 | -- | -- |

[a] The size concepts suggested by the California Coordinating Commission are full-time headcount students.

The following enrollment projections for Virginia's State-supported two-year institutions are cited for comparison with the size concepts which have been presented for two-year institutions.

It can be seen from the projections that sixteen of the community colleges will not achieve the minimum enrollments which have been set forth by the Carnegie Commission and Clark Kerr. Only six of these, however, fall below the minimums established by the California and Texas Coordinating Boards and each of these are located in sparsely populated areas of the state such as the Southwest and Eastern Shore regions. Given this fact, and the roll of the Community College System in placing two years of postsecondary education within commuting distance of each citizen of Virginia, these are felt to be acceptable and desirable exceptions to the minimum guidelines which have been offered. Only Eastern Shore Community College is projected to achieve a size which will fall below the 500 FTE minimum cited by the Minnesota Coordinating Commission.

## Projected Student Enrollment

## Two-Year State-Supported Institutions

|  | FALL 1974 |  | FALL 1976 |  | FALL 1978 |  | FALL 1980 |  | FALL 1982 |  |
|---|---|---|---|---|---|---|---|---|---|---|
|  | Headcount | FTE | Headcount | FTE | Headcount | FTE | Headcount | FTE | Headcount | FTE |
| Community Col.: |  |  |  |  |  |  |  |  |  |  |
| Blue Ridge | 1,300 | 911 | 1,650 | 1,155 | 1,800 | 1,260 | 1,925 | 1,348 | 2,009 | 1,406 |
| Central Virginia | 2,305 | 1,613 | 2,596 | 1,817 | 2,724 | 1,907 | 2,724 | 1,907 | 2,724 | 1,907 |
| Dabney S. Lancaster | 811 | 545 | 1,089 | 706 | 1,262 | 789 | 1,349 | 893 | 1,422 | 889 |
| Danville | 2,211 | 1,649 | 2,421 | 1,749 | 2,484 | 1,860 | 2,450 | 1,776 | 2,262 | 1,583 |
| Eastern Shore | 290 | 207 | 371 | 244 | 547 | 347 | 605 | 378 | 592 | 367 |
| Germanna | 1,045 | 733 | 1,525 | 1,067 | 1,850 | 1,295 | 2,000 | 1,400 | 2,147 | 1,503 |
| J. Sargeant Reynolds | 3,600 | 2,520 | 5,400 | 3,780 | 6,600 | 4,620 | 7,245 | 5,072 | 7,890 | 5,523 |
| John Tyler | 2,366 | 1,775 | 3,061 | 2,296 | 3,719 | 2,790 | 4,222 | 3,167 | 4,474 | 3,356 |
| Lord Fairfax | 1,075 | 806 | 1,374 | 1,031 | 1,596 | 1,197 | 1,768 | 1,252 | 1,970 | 1,379 |
| Mountain Empire | 890 | 665 | 1,260 | 822 | 1,373 | 826 | 1,390 | 834 | 1,337 | 827 |
| New River | 1,545 | 1,159 | 1,809 | 1,357 | 2,085 | 1,564 | 2,085 | 1,460 | 2,085 | 1,340 |
| Northern Virginia | 17,600 | 12,320 | 21,800 | 15,260 | 24,500 | 17,150 | 26,098 | 18,365 | 24,500 | 17,512 |
| Patrick Henry | 800 | 570 | 950 | 620 | 1,100 | 715 | 1,230 | 815 | 1,400 | 910 |
| Paul D. Camp | 1,035 | 724 | 1,106 | 774 | 1,177 | 824 | 1,150 | 805 | 1,134 | 794 |
| Piedmont Virginia | 1,054 | 738 | 1,365 | 955 | 1,588 | 1,090 | 1,665 | 1,166 | 1,737 | 1,216 |
| Rappahannock | 1,050 | 767 | 1,724 | 1,120 | 1,974 | 1,282 | 1,965 | 1,276 | 1,965 | 1,276 |
| Southside Virginia | 1,441 | 1,008 | 1,756 | 1,229 | 1,953 | 1,367 | 2,039 | 1,427 | 2,060 | 1,442 |
| Southwest Virginia | 1,770 | 1,283 | 2,129 | 1,490 | 2,233 | 1,563 | 2,075 | 1,452 | 1,824 | 1,263 |
| Thomas Nelson | 3,300 | 2,310 | 4,020 | 2,815 | 4,680 | 3,275 | 5,180 | 3,626 | 5,676 | 3,973 |
| Tidewater | 7,059 | 5,117 | 8,400 | 5,880 | 9,600 | 6,720 | 10,400 | 7,280 | 11,256 | 7,879 |
| Virginia Highlands | 875 | 719 | 1,145 | 905 | 1,192 | 918 | 1,150 | 851 | 1,108 | 776 |
| Virginia Western | 3,733 | 2,613 | 4,043 | 2,830 | 4,241 | 2,969 | 4,200 | 2,940 | 3,898 | 2,729 |
| Wytheville | 1,346 | 930 | 1,465 | 1,000 | 1,588 | 1,070 | 1,545 | 1,060 | 1,500 | 1,050 |
| 2-Yr. Branch Col.: |  |  |  |  |  |  |  |  |  |  |
| Richard Bland of W&M | 950 | 668 | 1,050 | 738 | 1,150 | 808 | 1,180 | 829 | 1,200 | 843 |

Four of the community colleges will achieve enrollments which will fall within the size ranges cited by each of the references mentioned. The remaining three colleges are all projected to reach enrollment levels which will exceed the maximums suggested by the references, but each of these are multi-campus institutions which will not exceed the maximums on any one of their respective campuses. It is interesting to note that of the seven institutions which will meet the recommended size ranges, all are located in urban areas of the Commonwealth.

Summary of Size Concepts for Liberal Arts Colleges

| | Minimum | | Optimum | Maximum | |
|---|---|---|---|---|---|
| | Headcount | FTE | | Headcount | FTE |
| Carnegie Commission | 1,100 | 1,000 | -- | 2,700 | 2,500 |
| Hungate, Meeth, O'Connell | -- | -- | 2,000 | -- | -- |
| Clark Kerr | 1,000 | -- | -- | 2,000 | -- |
| Other Economists | 1,000 | -- | -- | -- | -- |

The following enrollment projections for Virginia's State-supported liberal arts colleges are cited in comparison with the size concepts which have been presented for liberal arts colleges.

Projected Student Enrollment.

Liberal Arts Colleges

| | FALL 1974 | | FALL 1976 | | FALL 1978 | | FALL 1980 | | FALL 1982 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Headcount | FTE | Headcount | FTE | Headcount | FTE | Headcount | FTE | Headcount | FTE |
| Cl. Valley of U. Va. | 926 | 882 | 1,054 | 1,006 | 1,130 | 1,032 | 1,088 | 1,042 | 1,030 | 987 |
| Mary Washington | 2,320 | 2,188 | 2,350 | 2,165 | 2,384 | 2,179 | 2,414 | 2,187 | 2,403 | 2,167 |

The expected enrollments for both Clinch Valley and Mary Washington will fall within the size concepts which are generally accepted for liberal arts colleges.

Summary of Size Concepts for Comprehensive Colleges

| | Minimum | | Maximum | |
|---|---|---|---|---|
| | Headcount | FTE | Headcount | FTE |
| Carnegie Commission | 6,000 | 5,000 | 12,000 | 10,000 |
| California Coordinating Commission | | | | |
| In densely populated areas | 5,000 | -- | 17,500-<br>20,000 | -- |
| Outside such areas | 3,000 | -- | 9,500-<br>12,000 | -- |
| Clark Kerr | -- | 5,000 | -- | 10,000 |

The minimum and maximum enrollments suggested by the California Coordinating Commission are for full-time headcount students.

The following enrollment projections for Virginia's State-supported comprehensive colleges are presented for comparison with the size concepts which have been outlined for comprehensive colleges.

Projected Student Enrollment

Comprehensive Colleges

| | FALL 1974 | | FALL 1976 | | FALL 1978 | | FALL 1980 | | FALL 1982 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Headcount | FTE | Headcount | FTE | Headcount | FTE | Headcount | FTE | Headcount | FTE |
| C. Newport of W&M | 2,869 | 2,005 | 3,345 | 2,341 | 3,829 | 2,620 | 4,023 | 2,816 | 4,023 | 2,816 |
| Geo. Mason U. | 5,500 | 4,401 | 7,200 | 5,763 | 8,500 | 6,778 | 8,753 | 6,974 | 9,000 | 7,170 |
| Longwood | 2,420 | 2,403 | 2,450 | 2,410 | 2,475 | 2,417 | 2,475 | 2,417 | 2,445 | 2,417 |
| Madison | 6,338 | 6,020 | 6,823 | 6,480 | 7,220 | 6,855 | 7,220 | 6,855 | 7,155 | 6,793 |
| Norfolk State | 6,510 | 5,804 | 7,190 | 6,436 | 7,590 | 6,819 | 7,860 | 7,152 | 8,100 | 7,400 |
| Radford | 3,395 | 3,104 | 3,684 | 3,384 | 3,965 | 3,676 | 4,118 | 3,833 | 4,143 | 3,873 |
| Virginia State | 4,057 | 3,395 | 4,283 | 3,608 | 4,431 | 3,895 | 4,512 | 3,542 | 4,512 | 3,542 |

It can be seen from the projected enrollments for comprehensive colleges that four of the seven are not expected to reach the minimum levels suggested by either the Carnegie Commission or Clark Kerr. Two of four, however, are located in sparsely populated areas and will either reach or approach the minimum enrollments cited by the California Commission on Higher Education for thus located institutions. None of the seven colleges are projected to grow to a size which will either reach or exceed any of the maximum sizes mentioned in the noted references on the subject.

The problem of Virginia's State-supported comprehensive colleges, then, is not exceeding maximum size limitations which might be established, but achieving a legitimate size to be truly comprehensive.

Summary of Size Concepts for Doctoral-Granting Institutions

| | Minimum | | Maximum | |
|---|---|---|---|---|
| | Headcount | FTE | Headcount | FTE |
| Carnegie Commission | 5,900 | 5,000 | 23,500 | 20,000 |
| California Coordinating Commission | 5,000 | -- | 25,000–<br>27,500 | -- |
| Clark Kerr | -- | 10,000 | -- | 15,000 |
| Arthur Browne | 12,000 | -- | 15,000 | -- |

The minimum and maximum enrollment sizes suggested by the California Coordinating Commission are for full-time headcount students.

The following enrollment projections for Virginia's doctoral-granting institutions are presented for comparison with the size concepts which have been presented for that type of institution.

Projected Student Enrollment

Doctoral-Granting Institutions

| | FALL 1974 | | FALL 1976 | | FALL 1978 | | FALL 1980 | | FALL 1982 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Headcount | FTE | Headcount | FTE | Headcount | FTE | Headcount | FTE | Headcount | FTE |
| Old Dominion U. | 11,695 | 8,711 | 13,247 | 9,939 | 14,700 | 11,137 | 14,900 | 11,162 | 14,700 | 10,816 |
| U. Va. | 14,040 | 13,936 | 15,000 | 14,941 | 15,500 | 15,464 | 16,000 | 15,931 | 15,900 | 15,886 |
| VCU | 17,920 | 15,206 | 20,600 | 16,920 | 21,400 | 13,100 | 21,800 | 18,400 | 21,800 | 18,400 |
| VPI & SU | 15,800 | 15,900 | 17,356 | 17,356 | 19,264 | 19,264 | 20,000 | 20,000 | 20,000 | 20,000 |
| William and Mary | 5,876 | 5.457 | 5,840 | 5,471 | 5,962 | 5,622 | 6,019 | 5,673 | 6,060 | 5,708 |

It can be seen from a review of the above data that the projected enrollments of all of Virginia's State-supported doctoral-granting institutions fall within the size concepts suggested by the prestigious Carnegie Commission and the California Coordinating Commission. They also fall below the maximum sizes established for universities in the states of Tennessee and Texas. Only William and Mary is not expected to achieve the larger minimum sizes suggested by Clark Kerr and Arthur Browne in their discussions of the subject. It should be noted, however, that William and Mary offers only a limited number of doctoral programs, and that its primary mission is much more that of a comprehensive college. It fits within the suggested size ranges for such colleges. Two institutions, Virginia Commonwealth University and Virginia Polytechnic Institute and State University, will exceed the maximum sizes offered by Drs. Kerr and Browne as their opinion.

## V. Present Enrollment Capacity of Virginia's State-Supported Colleges and Universities in Comparison with Projected Enrollments

Because of the substantial investment required to provide physical facilities for higher education, it is desirable to consider the space required by Virginia's State-supported institutions as they grow to the sizes projected for them. The space planning guides which are utilized by a number of states can be used to provide a general approximation of the enrollment capacity of existing facilities. These system-wide facilities planning guides are used to evaluate institutional space requirements for purposes of capital resource allocation. They can also be used to estimate the enrollment capacity of the physical facilities which an institution already has available.

It is generally accepted that each state should develop planning guides and a planning system which reflects to the greatest possible degree both the higher education goals and the unique array of institutional characteristics within that state's system of higher education. The space planning guides which have been adopted for use in Virginia by the Capital Outlay Coordinating Commission of the House Appropriations Committee and also by the Governor's Office, are set forth in House Document No. 6 of the 1971 Session of the General Assembly.

For those kinds of space which relate most directly to accommodating student enrollment, such as classroom, laboratory, faculty office, library, physical education and other instructional space, the space planning guides adopted for use in Virginia are comparable to those utilized in other states and accepted by national planning groups. This can be documented by a comparative review of information available on space planning guides in other states[29] and the facilities planning criteria proposed by the National Center for Higher Education Management Systems,[30] which is funded by the United States Office of Education.

The results obtained from using Virginia's space planning guides to estimate the enrollment capacity of the state-supported institutions are shown in the following table. The table also presents for comparison purposes the maximum total and day-only full-time-equivalent enrollment (FTE) which is being planned for over the 1972 to 1982 period. Due principally to the decline in college-age population which will begin in Virginia by the late 1970s, these enrollments will also be the maximums which will have to be accommodated until at least the early 1990s, unless there is a marked increase in college attendance within segments of the population which have not taken advantage of higher education in the past.

It should be noted that the preceding estimates do not speak to the availability of adequate space to carry out research and public service responsibilities, or to provisions for sufficient support facilities such as administrative and physical plant operation and maintenance space. They also do not speak to the space requirements to feed and house students. They also do not speak to the quality of space, and to the possible need to replace inferior facilities. They provide only an approximation of the capacity of those instructional and library facilities most directly related to accommodating students.

In estimating the approximate capacity of seven separate types of space based on accepted standards, the analysis does provide an overview of institutional capacity and does not rely solely on one type of space, such as classrooms, to estimate the number of students which can be accommodated. It requires more than one type of space to provide quality instruction. This does not mean, however, that the results of

# ENROLLMENT CAPACITY OF VIRGINIA'S STATE-SUPPORTED COLLEGES AND UNIVERSITIES BASED ON SPACE CURRENTLY AVAILABLE[a] AND SPACE PLANNING GUIDES

| State-Controlled Institutions | Maximum Enrollment 1972-82 | | Full-Time Equivalent Enrollment Capacity | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | General Classroom | Teaching Laboratory | Tch. Faculty Office | Library | Physical Education | Special Class Laboratory[b] | Gen. Use (Other Inst.)[c] | Instructional Space |
| | Total FTE | Day FTE | Day FTE | Day FTE | FTE | FTE | Day FTE | Day FTE | Day FTE | FTE |
| 4-Yr. Col. & Univ.: | | | | | | | | | | |
| C. Newport of W&M | 2,816 | 2,253 | 1,565 | 1,268 | 1,044 | 1,138 | 2,265 | 549 | 275 | 1,332 |
| Cl. Valley of U. Va. | 1,082 | 1,072 | ,070 | 1,400 | 691 | 1,337 | 2,105 | 231 | 2,025 | 1,332 |
| Geo. Mason U. | 7,170 | 6,133 | 5,260 | 4,639 | 4,201 | 4,718 | 5,308 | 9,212 | 4,568 | 4,944 |
| Longwood | 2,417 | 2,367 | 4,672 | 3,268 | 2,411 | 2,313 | 651 | 6,229 | 7,006 | 3,121 |
| Madison | 6,855 | 6,690 | 5,817 | 10,003 | 5,151 | 2,420 | 8,910 | 18,068 | 10,004 | 6,697 |
| Mary Washington | 2,198 | 2,138 | 3,582 | 2,947 | 2,353 | 2,464 | 3,326 | 4,694 | 5,798 | 3,212 |
| Norfolk State | 7,400 | 6,853 | 5,348 | 13,021 | 4,346 | 4,576 | 2,922 | 13,116 | 4,426 | 5,809 |
| Old Dominion U. | 11,305 | 10,545 | 8,139 | 8,125 | 8,705 | 9,853 | 10,274 | 3,145 | 4,368 | 8,518 |
| Radford | 3,877 | 3,877 | 4,190 | 9,447 | 3,468 | 3,064 | 2,794 | 5,232 | 5,174 | 4,157 |
| U. Va. | 15,886 | 15,188 | 15,807 | 18,437 | 12,446 | 22,563 | 8,013 | 18,701 | 13,361 | 15,507 |
| VCU | 18,400 | 16,182 | 17,416 | 6,789 | 7,372 | 11,035 | 2,792 | 22,896 | 7,347 | 9,050 |
| VMI | 1,360 | 1,356 | 4,901 | 6,458 | 3,763 | 5,141 | 5,597 | 2,890 | 4,526 | 5,013 |
| VPI & SU | 20,000 | 20,000 | 11,833 | 17,778 | 15,346 | 7,423 | 10,903 | 12,719 | 11,416 | 12,450 |
| Virginia State | 3,942 | 3,746 | 9,327 | 5,790 | 4,713 | 4,011 | 3,439 | 6,895 | 3,087 | 5,181 |
| William and Mary | 5,708 | 5,334 | 7,284 | 4,399 | 5,638 | 6,864 | 5,054 | 8,470 | 2,291 | 5,734 |
| Community Col.: | | | | | | | | | | |
| Blue Ridge | 1,406 | 1,055 | 910 | 1,182 | 426 | 904 | -- | 833 | 325 | 761 |
| Central Virginia | 1,907 | 1,526 | 1,406 | 1,714 | 706 | 792 | 325 | 1,821 | 815 | 1,166 |
| Dabney S. Lancaster | 893 | 724 | 487 | 296 | 335 | 406 | -- | 656 | 74 | 302 |
| Danville | 1,860 | 1,595 | 1,652 | 1,547 | 763 | 522 | -- | 792 | 853 | 1,111 |
| Eastern Shore | 386 | 327 | 329 | 2,644 | 189 | 344 | -- | 382 | 446 | 459 |
| Germanna | 1,503 | 1,278 | 891 | 374 | 477 | 503 | -- | 799 | 362 | 431 |
| J. Sargeant Reynolds | 5,523 | 4,418 | 1,719 | 1,023 | 588 | 658 | -- | 864 | 250 | 824 |
| John Tyler | 3,356 | 2,618 | 2,891 | 993 | 1,170 | 1,386 | 118 | -- | 326 | 1,152 |
| Lord Fairfax | 1,379 | 1,241 | 832 | 419 | 445 | 561 | -- | 731 | 33 | 441 |
| Mountain Empire | 836 | 730 | 696 | 214 | 430 | 385 | -- | 673 | 139 | 295 |
| New River | 1,564 | 1,173 | 1,033 | 495 | 362 | 445 | -- | 815 | 35 | 447 |
| Northern Virginia | 18,365 | 13,774 | 8,363 | 3,070 | 5,142 | 4,979 | 472 | 5,705 | 2,209 | 4,002 |
| Patrick Henry | 910 | 730 | 882 | 629 | 585 | 530 | 1,333 | 1,624 | 1,955 | 936 |
| Paul D. Camp | 824 | 618 | 677 | 426 | 341 | 367 | -- | 1,270 | 89 | 384 |
| Piedmont Virginia | 1,216 | 912 | 869 | 644 | 347 | 422 | 97 | 955 | -- | 503 |
| Rappahannock | 1,282 | 1,026 | 1,636 | 791 | 845 | 686 | -- | 2,081 | 250 | 804 |
| Southside Virginia | 1,442 | 1,082 | 1,007 | 729 | 941 | 831 | - | 2,603 | 599 | 779 |
| Southwest Virginia | 1,563 | 1,172 | 2,626 | 1,082 | 613 | 812 | 260 | 3,040 | 175 | 977 |
| Thomas Nelson | 3,973 | 3,218 | 2,023 | 497 | 869 | 1,850 | -- | -- | 423 | 826 |
| Tidewater | 7,879 | 6,697 | 2,642 | 2,823 | 1,737 | 2,280 | 2,669 | 5,046 | 28 | 2,543 |
| Virginia Highlands | 918 | 689 | 639 | 549 | 560 | 341 | -- | 1,130 | 158 | 457 |
| Virginia Western | 2,969 | 2,227 | 2,445 | 807 | 924 | 1,071 | -- | 4,072 | 703 | 1,017 |
| Wytheville | 1,070 | 856 | 706 | 374 | 717 | 594 | -- | -- | 807 | 460 |
| Two-Year Branch College: | | | | | | | | | | |
| Richard Bland of W&M | 843 | 785 | 1,061 | 1,677 | 749 | 928 | 3,318 | 1,466 | 648 | 1,358 |

[a] Includes space which is under construction or funded for construction.

[b] This category includes such rooms as language laboratories, group music practice rooms, and group studios.

[c] This category includes auditoriums, theatres, museums, and galleries related to the instructional program.

the application of seven separate space planning guides should be interpreted to support a position that the lowest capacity arrived at for one type of space sets the overall capacity of the institution. It does reflect the position that a critical shortage of one type of space at an institution can affect its overall ability to accommodate enrollment and that this should be taken into account when estimating capacity.

An example of how the preceding data can be used to draw general conclusions about one institution's enrollment capacity may be helpful. A person generally familiar with The College of William and Mary might use the data presented to conclude that the college could accommodate about 7,000 FTE students. It has the necessary general classroom and library space for such an enrollment level and the apparent deficiency in teaching laboratory space might well be met by the excess in special class laboratory space or other adjustments. The college has a physical education facility which, because of the nature of its use, is categorized under Auxiliary Enterprise rather than Educational and General. This facility might well provide space to overcome the deficiencies shown in physical education and general use facilities. If a further more detailed investigation supported these tentative conclusions, the deficiency in faculty office space might be overcome.

On the other hand, this analysis does not tell the whole story; it does not take into consideration facilities for research, public service, and support activities. Neither does it take into consideration the housing and feeding of additional students, nor the peculiar circumstances of the college's location in and adjacent to Colonial Williamsburg. Analysis of facilities data clearly must be complemented by the analysis of many other factors, some of which are not as easy to quantify.

The data can provide only very general and tentative conclusions about the existing capacity of institutional facilities, conclusions which would require further study and deliberation before being accepted. In general, however, the data suggests that six four-year colleges and universities will require additional facilities to accommodate projected enrollments. These are Christopher Newport College, George Mason University, Norfolk State College, Old Dominion University, Virginia Commonwealth University, and Virginia Polytechnic Institute and State University. The nine other senior institutions either have adequate or more than adequate space to meet expected enrollment levels. Of the six which will require additional space and capital outlay funding, five are located in the urban corridor of the State and are relatively new and rapidly developing institutions. The sixth, Virginia Polytechnic Institute and State University, is for a number of reasons an institution which is particularly attractive to prospective Virginia college students even though it is located in one of the sparsely populated areas of the State. Of the seven senior institutions which have more than adequate space to accommodate projected enrollments, four are located in sparsely populated areas of the State. These are Clinch Valley College, Longwood College, Radford College (which is, of course, close to VPI & SU), and Virginia Military Institute.

One of the major policy questions before the State in higher education, therefore, is how to deal with unused space at institutions in certain areas of the State while constructing new buildings to accommodate students at institutions in more densely populated areas. One approach would be to alter the missions of selected institutions so that they might attract more students (for instance, Virginia Military Institute). Another approach would be to adopt policies which would limit the rights of students to choose which institution they wish to attend. This approach would limit the enrollments of certain institutions, principally those in the urban areas, to levels below those presently projected and take such other measures as are necessary to force a distribution of students to institutions which would more closely match the availability of physical facilities. It should be pointed out that such a decision would clearly run the risk of discouraging participation in higher education due to the distances involved. Students would have to go where the facilities already exist. The higher education services available in the more populous areas of the State would be curtailed, and Virginia's commitment to provide accessibility to higher education would be justifiably questioned.

The information presented on the enrollment capacity of community colleges indicates that all but five will have to add at least some additional space in order to accommodate projected enrollment levels. The regional orientation of these colleges and the State policy of locating a college within commuting distance of each citizen support the need to provide funding for additional space. Again, it is a question of accessibility.

## VI. Summary and Conclusions

Although there are no categoric institutional sizes which can be proven "right," there are generally accepted size ranges which should be referred to in projecting specific institutional enrollments for planning purposes. These ranges should be established on the basis of the best evidence available, should be considered from several different viewpoints, and should consider the different types of institutions for which planning is being done.

The most recent comprehensive study and recommendations on appropriate minimum and maximum enrollments for institutions of higher education are those of the Carnegie Commission on Higher Education. The recommendations of the Carnegie Commission on size ranges for different types of institutions provided guidance to the staff of the State Council of Higher Education in developing enrollment projections for the State-supported colleges and universities. These projections have been approved by the State Council of Higher Education. The size limitations set forth by the Carnegie Commission are therefore recommended by the staff as being appropriate for use in planning the growth of Virginia's State-supported colleges and universities. The findings of the Commission are, in general, supported by the results of other studies on the question of institutional size. Each of the enrollment projections for Virginia's State-supported institutions through 1982 fall below the maximum enrollment levels proposed by the Carnegie Commission.

By the late 1970s the college age population in Virginia will begin to decline in number. Based on current birth rates, this situation cannot reverse itself until the 1990s at the earliest. The maximum enrollments currently projected through 1982 will not, therefore, be exceeded for the next twenty years. In view of these facts, the State Council staff concludes that further limitations on institutional size based on accepted concepts of maximum size need not be a major concern. The maximum sizes proposed by the Carnegie Commission have been observed without exception in projecting the enrollments of Virginia's State-supported institutions. These limitations are currently the most widely accepted in higher education.

The problem for many institutions will not be in exceeding appropriate size limitations based on current concepts, but reaching and maintaining the minimum sizes called for by the Carnegie Commission and others. This is a serious problem and one which relates to the number of institutions and their geographic distribution within the State. It is therefore recommended by the staff that no new public institutions be established and that careful consideration be given to alternative actions which would address the problems of existing institutions which fall below the minimum enrollments proposed by the Carnegie Commission.

It is clear that, based on presently planned enrollments, a number of senior state-supported institutions have instructional space excess to their needs, while others will require additional capital construction. It is recommended by the staff that capital outlay funding for those institutions with excess space be limited to emergency repairs, necessary renovations or replacement of inferior facilities, and specialized facilities needs which can be supported on the basis of special considerations. It is further recommended that the State Council study and recommend ways in which students can be encouraged to attend institutions with surplus facilities. The study and recommendations should reflect the need to ensure that citizens have access to higher education, and that necessary growth of those institutions located so as to be accessible not be unduly limited. The emphasis should be on taking steps to encourage redistribution, rather than limiting the necessary growth of some institutions in an attempt to force redistribution. Attempts to force redistribution might well result in decreased participation in higher education, an effect which is clearly counter to the State's commitment to provide access to higher education for all of its citizens.

# FOOTNOTES

[1] Planning for the 1970's: Higher Education in Colorado (Denver: Colorado Commission on Higher Education, 1971), p.17.

[2] Arthur W. Chickering, "How Big Should a College Be?" Liberal Education, LII (October, 1966), p.281.

[3] How Big? A Review of the Literature on the Problems of Campus Size (Los Angeles: Division of Institutional Research, California State Colleges, 1970).

[4] Planning for the 1970's op.cit., p.19.

[5] Ibid., p.19.

[6] Paul V. Porter and Robert G. McMurray, "How Big Should a University Be?" Toward an Understanding of Higher Education (Council of State Governments, 1970), pp. 15-22.

[7] John Dale Russell and Floyd W. Reeves, The Evaluation of Higher Institutions, Vol. VII: Finance (Chicago: The University of Chicago Press, 1935).

[8] Gustave Ernest Metz, Current Fund Expenditures (Atlanta: Commission on Colleges, Southern Association of Colleges and Schools, 1964).

[9] The Carnegie Commission on Higher Education, New Students and New Places (New York: McGraw-Hill Book Company, 1971), p.82.

[10] California State Department of Education, A Master Plan for Higher Education in California, 1960-75 (Sacramento, 1960), pp.111-112; Coordinating Council for Higher Education, The Master Plan Five Years Later (No. 1024, 1966), p.16.

[11] A Study of Income and Expenditure in Sixty Colleges - Year 1953-54, National Federation of College and University Business Officers Associations.

[12] The Sixty College Study: A Second Look, National Federation of College and University Business Officers Associations, 1960.

[13] H. H. Jenny and G. Richard Wynn, The Golden Years: A Study of Income and Expenditure Growth and Distribution of 48 Private Four Year Liberal Arts Colleges 1960-68 (Wooster, Ohio: The College of Wooster, 1970), p. 56.

[14] E. Alden Dunham citing Arthur Browne in Colleges of the Forgotten Americans (New York: McGraw-Hill Book Company, 1969), p.81.

[15] Carnegie Commission, *op.cit.*, p.82.

[16] *Ibid.*, p. 81.

[17] *Ibid.*, p. 83.

[18] David Reisman, "Some Problems of Assessing (and Improving) the Quality of a College," in *Higher Education in the United States*, ed. by Seymour E. Harris (Cambridge: Harvard University Press, 1960), p. 177.

[19] Alan H. Barton, *Organizational Measurement and Its Bearing on the Study of College Environments* (New York: College Entrance Examination Board, 1961), p. 39.

[20] Clark Kerr, Speech delivered to the State University of New York Chancellor's Panel on University Purposes (New York, New York, October 5, 1970), pp. 9-10.

[21] Harold Hodgkinson, "Ideal Governance Structure Would be Large and Smaller Simultaneously," *College and University Business*, IIL (April, 1970), pp. 65-68.

[22] Arthur W. Chickering, *Education and Identity* (San Francisco: Jossey-Bass, Inc., 1969), pp. 185-95.

[23] Wilbert J. McKeachie and Edward Bordin, "Size of Class and Institution as a Factor in the Enjoyment of Teaching," *Journal of Higher Education*, XXXII (June, 1961), pp. 339-343.

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[27] Definition adapted from *Institutional Size and Capacity, A Report to the Illinois Board of Higher Education*, Master Plan Committee L, 1966.

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# IV. MEDICAL SCHOLARSHIPS

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# INTRODUCTION: THE SCOPE OF THE STUDY

At the request of Senator William F. Stone, Chairman of the General Assembly Commission to Study Higher Education, the staff of the State Council of Higher Education for Virginia has investigated medical scholarships as means for obtaining more physicians for rural areas. In June a proposal which responded to this request was prepared by the State Council staff and presented to the Advisory Committee on Education for Health Professions and Occupations.

The objective of the investigation was stated in the proposal as follows: "To determine the amount and type of financial assistance needed in medical education to increase the supply of physicians in underserved areas of the Commonwealth." The complete proposal is found in Appendix I.

Following a review of previous studies made on medical education in Virginia and other states, contacts were made with both state-supported medical schools, the Association of American Medical Colleges, the American Medical Association, the Illinois Medical Association, the Indiana University Medical School, and with individuals suggested by the Association of American Medical Colleges and the American Medical Association. Visits were made to the two state-supported medical schools, the American Medical Association, and the Illinois Medical Association. A complete list of persons contacted is found in Appendix II.

This is not intended as an in-depth study of medical scholarships, because such a study was not possible within the time limitation. The report of information obtained from the above sources hopefully will provide the Commission to Study Higher Education with basic information about medical education in Virginia, a comparison of Virginia's medical scholarship program with scholarship/loan programs in other states, the need for graduate medical education positions and some alternatives to physician manpower.

The support and assistance of the medical schools at the University of Virginia and the Medical College of Virginia, Virginia Commonwealth University is acknowledged. Dr. William Drucker, Dean, University of Virginia School of Medicine and Dr. Warren Pearse, Dean, Medical College of Virginia School of Medicine and members of their staff have been most generous with their time and have provided much information on the current status of medical education in Virginia.

Dr. Edward Peterson was most cooperative in arranging a visit to the American Medical Association and providing opportunities to meet with various members of the American Medical Association staff. The staff at the Association of American Medical Colleges was most helpful in providing information and names of resource persons.

The proposal included plans to convene a resource group to review the report and make recommendations. This plan could not be implemented as a result of the time constraints in doing the necessary research and preparing the report.

## BACKGROUND INFORMATION

Over the past twenty years the General Assembly of Virginia has devoted considerable attention to increasing the opportunity for students to attend medical schools and increasing the supply of physicians for rural areas in Virginia. The 1962 session of the Virginia General Assembly directed the State Council of Higher Education to

> make a study and report on the role, goals, and extent to which the existing medical schools are meeting the needs for qualified medical practitioners, and whether the State is meeting its obligations and responsibilities in providing adequate opportunities for students, who desire to do so, to obtain a medical education in the State.

In addition, the Council was asked to

> make a careful and comprehensive study of the feasibility and advisability of establishing a private school of medicine in the Tidewater area.

The reports of these studies were made to the Governor and General Assembly in December 1963 in volumes entitled "Physicians for Virginia -- Part I -- A Report of Virginia's Medical Schools" and "Physicians for Virginia -- Part II -- A Study of the Feasibility of Establishing a Private Medical School in the Tidewater Area of Virginia."

The "Physicians for Virginia -- Part I" report devoted several pages to the cost of medical education. Information from a 1961 survey indicated that it cost the average unmarried medical student about $10,000 to complete four years of medical school. At the time of the 1963 report, Virginia was one of thirteen states that had a scholarship program for medical students who agreed to serve in some rural community or State position, Virginia's program having been initiated in 1942. About thirty-five $1,000 scholarships were available each year with about 50 percent of the recipients fulfilling their obligation under the program by serving in a rural area. A recommendation in this report encouraged the General Assembly to consider "the necessity of establishing larger scholarship funds for the State medical schools to use in the encouragement and support of worthy Virginia students in the study of medicine." As noted later in the report, the amount of the scholarship was increased in 1968 to $1,500.

This 1963 report also devoted attention to expanding the enrollment in the two state medical schools. In 1962-63, the University of Virginia enrolled seventy-six first-year students and the Medical College of Virginia enrolled eighty-four first-year students. It is interesting to note that only 150 of the applicants at the University of Virginia and 152 at the Medical College of Virginia were Virginia residents. Two recommendations were made encouraging the General Assembly "to look with favor upon the proposed plans to increase the entering class of the medical school at the Medical College of Virginia to 100 students during the coming biennium, and to provide the necessary funds to support this expansion," and "to provide planning funds during the next biennium for the medical school of the University of Virginia to study requirements for expanding the entering class of the medical school to 100 students by 1967."

In 1968 the General Assembly of Virginia created a

> Commission to study the advisability and feasibility of utilizing medical facilities, resources, and professional personnel of Roanoke and other communities in the western part of the State as an affiliated operation of the University of Virginia directed toward participation in the education of medical students in their clinical years, post-

graduate residency training and continuing education, as well as training the allied health professions.

This Commission reported to the Governor and General Assembly in 1970, was continued, reporting again in 1972, and thereafter continued as the Medical Facilities Commission. This Commission estimated that Virginia should graduate 400 physicians per year. In order for the University of Virginia to increase the number of physician graduates and trainees, "it is essential that medical facilities and resources of other medical communities, particularly Roanoke, be utilized." The University of Virginia School of Medicine has established affiliations with Winchester Memorial Hospital, two hospitals in Lynchburg, and three hospitals in Roanoke. Physicians in these communities hold faculty appointments in the School of Medicine and serve as the Directors of Medical Education in the respective communities. An associate dean has been appointed for the Roanoke area. Medical students and residents are now receiving clinical training in the Roanoke area. This has resulted in an increased enrollment in the School of Medicine and additional residency positions.

In 1970 the General Assembly directed the Virginia Advisory Legislative Council "to study the shortage of family physicians." A report of this study with recommendations was presented to the Governor and the General Assembly in December 1971. This report recommended the establishment and expansion of family practice residency programs that meet the qualifying criteria approved by the Residency Review Committee of the AMA. The 1972 General Assembly appropriated funds to each medical school specifically designated for the establishment of family practice programs. This report also recommended an increase in the amount of the State Medical Scholarships in amounts from $1,500 to $2,500 each with forty such scholarships available at each school.

The General Assembly approved the increase to $2,500, twenty-seven at the University of Virginia and thirty-three at MCV-VCU. The number of scholarships allocated was based on the enrollments at the two schools.

## THE CURRENT MEDICAL SCHOLARSHIP PROGRAM

Virginia initiated the medical scholarship program in 1942, the first state to initiate such a program. According to information obtained from the State Health Department, the first scholarships were in the amount of $550 each awarded to four students at the Medical College of Virginia. The legislation has been amended since 1942 to provide for additional amounts and numbers of scholarships as follows:

| | | |
|---|---|---|
| 1946 | $ 500 | Ten at each medical school |
| 1948 | $1,000 | Ten at each medical school -- five to Virginia State College for students to attend Meharry Medical College |
| 1950 | $1,000 | Twenty at each medical school, and ten to Virginia State College |
| 1968 | $1,500 | Number remained the same |
| 1972 | $2,500 | Sixty scholarships -- Thirty-three at MCV-VCU and twenty-seven at UVa. The 1972 legislation also provided a provision to allow student already attending Meharry Medical College as of September 13, 1972 to continue to receive scholarship assistance. |

Over the years, the medical scholarships program has not been fully utilized. The under utilization has apparently been directly related to the amount of money available through other sources, particularly federal, with less commitment in terms of location of practice. During the period 1960-1968, federal loans were available to needy students with no obligation to serve in a rural area, and were available in larger amounts than State scholarships. Since 1968, the federal loan program has been greatly reduced and is not as readily available to medical students. This reduction in federal assistance programs has apparently increased the interest in State scholarships. In 1972 all sixty of the State scholarships were utilized, twenty-seven at the University of Virginia, and thirty-three at the Medical College of Virginia-Virginia Commonwealth University.

According to the records maintained by the State Health Department, through the class of 1972, less than fifty percent of the recipients of medical scholarships fulfill their obligation by engaging in the "practice of family medicine in an area of needs for a period of years equal to the number of years which he has been a beneficiary of such scholarships" (Table 1).

TABLE 1

| | No. of Students Receiving Scholarships | % Fulfilling Requirements By Practice | Percent Repaying | Percent Pending | Percent Other |
|---|---|---|---|---|---|
| University of Virginia | 96 | 44 | 48 | 4 | 4 |
| Medical College of Virginia | 142 | 48 | 37 | 10 | 5 |
| Virginia State College (medical and dental) | 81 | 11 | 60 | 28 | 1 |

Recipients are allowed a three-year period to complete an intern or residency program prior to beginning practice which accounts for the percentages of recipients classified as "pending" in Table 1. A minimum military service obligation is allowed with the recipient beginning to fulfill the obligation immediately upon discharge. Recipients may also fulfill the obligation by "appointment and service in public health service of the Commonwealth or by service in institutions of the Department of Welfare and Institutions."

The percent of "others" in Table 1 are scholarship recipients who did not complete medical school. It is also important to note that the percentage of students who fulfilled their obligation includes those who fulfilled over one-half of the time required in practice and repaid the rest of the money. Likewise the percentage of students who repaid the money rather than practice in an area of need includes those who fulfilled less than one-half of the time required in practice. Complete information on each school is contained in Appendix III.

The administration of the medical scholarship program varies at the two medical schools. At the Medical College of Virginia-Virginia Commonwealth University, the administration of the program has changed since the initiation of the family practice program. The Chairman of the Department of Family Medicine now interviews applicants for the medical scholarships and decides who will receive the scholarships. The decision is based on both the medical student's career goal to practice family medicine in an area of need and his need for financial assistance. The student is requested to designate whether he plans to practice in a rural or urban area. Each year the student is required to sign a form indicating his career goals and his continued commitment to practice family medicine in an area of need. Some students will relinquish the scholarship at the end of one year when they realize they do not wish to practice family medicine. The number of applicants for the scholarships now exceeds the number available at the Medical College of Virginia. This is viewed by the Chairman of the Department of Family Medicine as beneficial. Students now realize there is competition for the scholarships and those students accepting the scholarship must be committed to repaying the scholarship through practice rather than repaying the money. The availability of the scholarship funds for residents and non-residents is felt to be a definite benefit. This hopefully will attract non-resident students to practice in Virginia.

At the University of Virginia, the program is administered through the Scholarship and Loan Committee in the Medical School. The student completes a financial need statement which is reviewed by the Committee Chairman. Interviews are scheduled with about twenty-five percent of the students. Recommendations are then made to the Committee. Preference for the State medical scholarships is given to the neediest Virginia residents first and the neediest out-of-state residents second. Students accepting the State scholarship are required to agree to practice primary medicine in an area of need in Virginia. A financial statement from each recepient is reviewed each year on each recipient for continuation of the scholarship. Fifty medical students applied for the medical scholarship for 1972-73. Twelve students withdrew their applications after considering the obligation.

In reviewing the current scholarship program with medical school representatives and other resource persons, it was generally agreed that it is too early to evaluate the effectiveness of the medical scholarship program since the revisions made in 1971 and 1972. The increase in the amount of the scholarships, the increase in the number of scholarships available, the increased emphasis on primary health care in the medical schools, and the decrease in other sources of financial aid are all factors to be considered in determining the impact of the medical scholarship program in locating physicians in Virginia. The majority of students receiving scholarships since these changes have occurred are still in medical school, in the armed services, or in intern and residency programs.

Consideration might, however, be given to establishing different guidelines for determining the "area of need" for physicians. The "area of need" is currently defined as any locality in which the ratio of physicians to population is 1:1,500 or greater.

This ratio is based on total physicians per unit of population rather than primary care physicians per unit of population.

In 1972, Dr. Fitzhugh Mayo completed a report on "Primary Care Physician Manpower in Virginia -- 1972 -- Present Supply and Future Needs." In this report Dr. Mayo states that

> since it is possible to have ample numbers of secondary and tertiary care physicians and simultaneously have a shortage of primary care physicians, manpower estimates for primary care obviously must be separated from the whole. No lucid exposition of this problem is likely to occur until this separation is made.

Dr. Mayo further notes in his report that some rural areas such as the Shenandoah Valley are much better served than the metropolitian area of Southern Tidewater. This report documents the deficits in primary care physicians (family practitioners, general internists, or pediatricions) for each political sub-division. The data for 1973 is currently being collected and should be available by early fall 1973. Since the medical scholarship program is designed to provide primary health care physicians for Virginia, it would seem most appropriate to separate primary care physicians from the total physician population in determining areas of need.

## MEDICAL SCHOLARSHIP AND LOAN PROGRAMS IN OTHER STATES

A study of scholarship and loan programs sponsored primarily by state governments and state medical associations was published in the Journal of Medical Education in July, 1971. This study, conducted by Henry Mason, Research Associate, American Medical Association, studies financial aid programs in thirty-four states and the District of Columbia. The majority of these programs (twenty-six) were loan programs either making direct loans or guaranteeing loans from private banks. Some of the state scholarship programs were indistinguishable from loan programs since students who do not practice in rural communities were required to repay the scholarship with interest.

As Mr. Mason indicates in his article, it is important to review these programs in the context of recent data on financial aid programs for medical students. The percent of students receiving loans has grown from 10 percent in 1957-58 to 66.2 percent in 1971-72. An additional 44.6 percent of medical students were awarded some form of scholarships (Table 2).

TABLE 2
SCHOLARSHIP AND LOAN FUNDS ADMINISTERED
U.S. MEDICAL SCHOOLS, 1971 - 1972 *

| | Public | Private | All Schools |
|---|---|---|---|
| Number of Schools | 61 | 47 | 108 |
| Enrollment | 23,872 | 19,778 | 43,650 |
| Loans: | | | |
| Funds expended | $17,697,251 | $18,129,762 | $35,827,013 |
| Number of students receiving loans | 15,465 | 13,424 | 28,889 |
| Average value per student receiving loan | $1,144 | $1,351 | $1,240 |
| Percent of enrollment receiving loans | 64.8 | 67.9 | 66.2 |

| | Public | Private | All Schools |
|---|---|---|---|
| Scholarships: | | | |
| Funds expended | $ 8,150,732 | $12,705,229 | $20,855,961 |
| Number of students receiving scholarships | 9,453 | 10,021 | 19,474 |
| Average value per student receiving scholarships | $ 862 | $ 1,268 | $ 1,071 |
| Percent of enrollment receiving scholarships | 39.6 | 50.7 | 44.6 |

* Source: American Medical Association. Medical Education in the United States. Journal of the American Medical Association, Volume 222, No. 8, Chicago, 1972.

It is possible that students receiving scholarships may also receive loans during the study year.

Table 3 shows the source and distribution of loan funds during the period of 1968-1972. Most of the states and medical society funds are included in the category "Other" in Table 3. However, some schools may include these funds in the category "School Funds" since the appropriation for loans may be made directly to and administered by the medical school.

TABLE 3

SOURCE OF MEDICAL STUDENT LOAN FUNDS, 1968-1972[a] *

| Source | 1968-1969 | 1969-1970 | 1970-1971 | 1971-1972 |
|---|---|---|---|---|
| School Funds | $ 2,391,702<br>(78) | $ 3,561,484<br>(77) | $ 4,463,465<br>(84) | $ 3,849,517<br>(82) |
| AMA-ERF | 817,199<br>(54) | 1,647,511<br>(56) | 2,451,838<br>(78) | 2,165,684<br>(77) |
| P.L. 88-129 and P.L. 89-290 | 15,109,295<br>(97) | 9,378,581<br>(98) | 9,375,051<br>(102) | 18,980,207[d]<br>(106) |
| NDEA | 196,475<br>(8) | 193,446<br>(6) | 209,383<br>(7) | 32,507<br>(3) |
| Other | 2,580,647<br>(53) | 3,870,588<br>(57) | 5,710,956<br>(62) | 11,012,794<br>(86) |
| All | 21,095,318<br>(99) | 18,651,610<br>(100)[b] | 22,210,693<br>(103) | 35,827,013<br>(107)[c] |

a The number of schools reporting is in parentheses.
b California (San Francisco) did not report.
c University of Nevada did not report.
d Health Professions Loans.
* Source: Same as for Table 2.

Additional information on the various state programs is found in Appendix IV. This information does not reflect the changes which were made in the Virginia program in 1971 and 1972, specifically the amount of the scholarship and the forgiveness provision. Five states (Florida, Indiana, Michigan, Mississippi, and Nebraska) discontinued "forgiveness programs" between 1964 and 1969. All but one of these states discontinued the program because borrowing physicians repaid the funds in lieu of practicing in an area of need. Only one state (Mississippi) discontinued the program "since the incentive was no longer needed."

The experience of states providing "forgiveness programs" for medical students is varied. Overall, 60 percent of physicians are fulfilling the commitment by practicing in a rural area and 38 percent are buying out of the obligation. The range of physicians fulfilling their obligation through practice is from 33 percent to 98 percent. Complete information is found in Appendix V.

According to Mr. Mason:

> It appeared that the programs having one or more professional employees working full time in a separate office devoted exclusively to the administration of the program had a better chance for success than those where its administration was one of many other responsibilities of a state agency or division of a medical society. The program should have its own home and its own full-time caretaker.
>
> The professional personnel connected with the program should develop an on-going relationship with students applying for loans and should become well versed in the criteria for selecting students who are likely candidates for small-town practice. In the interest of the primary objective of the program, students must be periodically reminded of their moral obligation to the program and of the financial penalty (resulting from high interest rates) for defaulting.
>
> The above suggestions are based on the assumption that forgiveness programs with the highest percentage of physicians who repay their obligation by practicing in rural communities are the most successful. This would certainly be expected to be the collective attitude of the state legislatures that appropriate funds for them; but is it also the attitude of the educators? Speaking of his students in relation to these programs, one medical school dean said:

> "As an individual enters medical school, he usually has insufficient knowledge of the various fields of medicine to really know what type of practice he will eventually want to engage in. Many have observed only general practice in a smaller community, and at the time they enter medical school, this is their primary concept of medical practice. Consequently, they may commit themselves to general practice as freshmen only to find later that some other field of medicine is the one that appeals to them."

Implicit in this dean's statement is that a program which asks freshman and sophomore medical students to commit themselves to rural practice must anticipate that a sizable number of young physicians will prefer to "buy out" of their responsibility for rural practice or, in some cases, default completely on their obligation. Educators who agree may feel that if only 50 percent of these physicians followed through with their commitment, this would be a reasonable yield for such a program.

CONSAD Research Corporation in Pittsburgh has recently reviewed federal and state forgiveness loan/scholarship programs for the Office of the Secretary, Department of Health, Education, and Welfare. Although a copy of this study was not available, contact was made with a member of the study staff. According to information obtained in the review of state programs, Kentucky and Georgia were considered to have successful programs. Physicians participating in the program in Kentucky are not allowed to "buy out" of the program which accounts for the 98 percent repayment by practice. Georgia's success is attributed to the administration of the program. The program is administered through the Office of the Chancellor of the University System. Candidates are interviewed by a review board and efforts are made to select students who come from a rural area and whose career goals are primary health care.

According to Don McCartney of CONSAD, the major factors in recruiting physicians for rural areas are:

1. Careful selection of candidates for scholarship/loan programs with special consideration for medical students (and their wives) from small towns.

2. Establishing internship and residency programs in primary health care which are an integral part of the medical school.

3. Attracting well-qualified family practitioners to the medical school faculty.

4. Utilizing a network of rural physicians for recommending candidates for admission to medical school.

5. Identifying locations available for primary care physicians and areas of greatest need.

The Illinois loan program has been judged by some to be one of the most successful programs in the country. This program is not supported with state funds, but rather by a loan fund established jointly by the Illinois Agricultural Association and the Illinois State Medical Society. The program is administered by a Medical Student Loan Fund Board with representatives from the two organizations. General information about this program is found in Appendix VI. The University of Illinois College of Medicine reserves spaces for applicants recommended by the Medical Student Loan Fund Board (MSLFB). Students who participate in the program are grouped as follows:

a. Those who receive an initial recommendation without ever receiving a loan.

b. Those who receive an initial recommendation and a loan.

c. Those who receive a loan after already enrolling in medical school.

If a student is recommended by the Board and does not receive a loan, he must pay $3,000 liquidation damages to be released from the rural practice requirement. If a student receives a loan and changes his plans to practice in a rural area, the loan must be repaid at a seven percent interest plus a $5,000 liquidating damage fee. The total loan is $1,500 per year with a two percent annual interest rate. A study of participation in the program from 1948 to 1964 revealed that the failure rate was higher among those who received an initial recommendation or an initial recommendation and loan than among those who received loans only. In addition, of the 126 participants in the program as many of the students who received loans only are practicing in rural areas as those who were recommended for admission by the MSLFB. Only thirty-five of the total 126 participants are located in rural areas of Illinois, nine are located in Cook County, thirty-five in non-Cook County urban areas, and fifty-six out of Illinois. In comparison with other state students enrolled in the University of Illinois College of Medicine, 34.9 percent of the graduates who participated in the MSLFB program are located in rural areas while only 19.0 percent of non-participants from Illinois are in rural areas. It should be noted that Illinois, unlike Virginia, is a major exporter of medical school graduates. According to the statistics on physician migration from Illinois, Illinois educates two or three times as many American doctors as it receives as hospital-based interns and residents and as licensed practitioners.

## FAMILY PRACTICE PROGRAMS

Virginia has demonstrated excellent leadership in the area of family practice. The family practice programs established in the two state-supported medical schools were recommended in the Virginia Advisory Legislative Council's "Study of the Shortage of Family Physicians." The 1972 General Assembly appropriated necessary funds to the two medical schools specifically earmarked for approved family practice residency programs. For the 1972-74 biennium the family practice programs were funded for a total of forty-eight family practice residents in 1972-73 and seventy-two family practice residents in 1973-74.

The family practice residency programs in Virginia have been designed to meet the requirements of the American Medical Association. These residency training programs are three years in length with the major portion of the residents training in a model family practice unit. Education and supervised training in medicine, pediatrics, surgery, obstetrics-gynecology, psychiatry, community medicine and electives (anesthesiology, radiology, dermatology, opthalmology, urology, orthopedics, etc.) will be available to the resident during the three year period.

The University of Virginia School of Medicine has established two family practice units for their residency training. One unit is located in Charlottesville and one in Roanoke. At the present time, six first-year positions are available in Charlottesville and nine in Roanoke. Planning is now underway to establish another family practice in Lynchburg with the potential of four to six additional first-year positions.

The School of Medicine of Medical College of Virginia-Virginia Commonwealth University has established family practice units. Six first-year positions are available in Blackstone, six in Fairfax, twelve in Newport News, and six at Virginia Beach. Future expansion is being considered for the areas of Northern Virginia and Central Virginia.

These programs are about two years old now and it is too early to evaluate the impact they will have in providing family physicians for the underserved areas in Virginia. However, there are several indicators of the potential success of these programs:

1. the number of applicants for the positions available in the family practice residencies has been very high--200 for twenty-four positions at MCV-VCU, seventy-five for the six positions in Charlottesville, and sixty for the nine positions in Roanoke;
2. various studies have shown that seventy-five percent of residents practice within fifty miles of the institution where they had their residency training; and
3. both family practice programs are selecting people who are looking for practice locations in Virginia.

Both medical schools have continued and strengthened the preceptorship program with the cooperation of the Virginia Academy of Family Practice. This program provides an opportunity for medical students to move to the office of a family practitioner for a period of time during the first or second year of medical school. The medical student can observe not only the problems and potentials in family practice, but he can also learn about communities. The student is encouraged to meet with community leaders and evaluate the community in terms of the educational system available, social and cultural opportunities available in the community or surrounding area, and other essential items to be considered by a physician in determining where he would locate a practice.

## GRADUATE MEDICAL EDUCATION

Although a number of studies have been devoted to medical education in Virginia, most of the emphasis of these studies has been on the first four years of medical education (general medical education). The graduate medical education (specialized training) has not received the same emphasis.

Dr. Warren Pearse recently prepared a paper for the Medical Facilities Commission on the "Relationship of Graduate Medical Education," July, 1973. As Dr. Pearse indicates in his report, "two landmark reports" have indicated the direction of graduate medical education: The Millis Commission Report (1966) and the Carnegie Commission Report on Higher Education and the Nation's Health (1970). The Millis Commission made the following recommendation:

> We therefore recommend that graduation from medical school be recognized as the end of general medical education, and that specialized training begin with the start of graduate medical education.
>
> University medical centers should be among the pioneers . . . in developing corporate responsibility for residency training and in initiating new programs of basic residency training.

The Carnegie Commission report made the following recommendations:

> The Commission recommends that states should continue to provide substantial financial support for medical and dental education--and major financial support for house officer (graduate medical) training. The states, in cooperation with universities and with regional and local planning bodies, should also play a major role in the development of plans for the location of university health science centers, area health education centers, and comprehensive colleges and community colleges providing training for allied health personnel.

> The Commission recommends that university health science centers should be responsible, in their respective geographic areas, for coordinating the education of health care personnel.

According to studies made of physician location, there is a much higher correlation between the location of the practice and the location of the residency program than between the location of practice and where the physician went to medical school. Table 4 indicates that 64.6 percent of physicians are practicing in the state where they took their graduate training, whereas only 45.8 percent are practicing in the state where they went to medical school.

TABLE 4

CUMULATIVE FREQUENCY DISTRIBUTION OF FACTORS RELATING STATE OF PRACTICE TO STATE OF GRADUATE TRAINING, MEDICAL SCHOOL, AND BIRTH

| | Type of Medical School of Graduation | | |
|---|---|---|---|
| | Public | Private | Total |
| Physicians Practicing in State of Graduate Training | 66.2% | 63.1% | 64.6% |
| Physicians Practicing in State of Medical School of Graduation | 56.1% | 36.0% | 45.8% |
| Physicians Practicing in State of Birth | 47.5% | 40.7% | 44.1% |

Source: Dr. Warren Pearse: "Relationship of Graduate Medical Education," July, 1973.

As Dr. Pearse discusses in his paper, not only is it important to have sufficient numbers of residency positions available, but these positions must be properly distributed in the specialty areas. In June, 1973 the American Medical Association's House of Delegates accepted Report I of the AMA Board of Trustees which addressed "The Distribution of Physicians by Medical Specialities." Recommendations of that report are cited by Dr. Pearse and include:

> 1. The need for more primary care physicians should be accepted as fact, even though it is difficult to determine precisely the additional numbers needed at this time.
>
> 4. The process of accreditation should not be distorted to regulate access to the various specialities in medicine . . .
>
> 5. AMA should adopt a goal . . . to have at least fifty percent of all medical graduates enter residency training in primary care specialities.
>
> 6. The need for numbers and types of physicians should be monitored continuously and reassessed periodically, and made available to medical students to assist them in choosing a specialty.

Dr. Pearse further states:

> In Virginia, there is no suggestion that standards of residency accreditation be varied to increase or decrease numbers of trainees in some field of medicine (see #4 above). Rather, state funding of the educational component of training and medical school responsibility should support appropriate numbers of residency positions to meet Virginia needs.
>
> The best information existing in Virginia, subject to all vagaries of predictive planning, is the report on Primary Physician Manpower drafted by Fitzhugh Mayo, M.D. Assumptions were made that internists, pediatricians, and family physicians are full time in primary care and other internal medicine subspecialists are half time in primary care, while other physicians are not counted, and that a ratio of one primary physician per 2,500 population should be achieved. With these assumptions, 111 new primary care physicians should enter practice in Virginia annually between now and the year 1990. Today this would represent forty percent of general medical positions.
>
> AMA data note that forty percent of practitioners are in primary care fields (including OB-GYN), and about forty percent of all residents are in these same fields. There are proportionally more residents than practitioners in Internal Medicine and fewer in Family Practice, but residents in the latter group are increasing.
>
> Data on remaining specialties has been compiled by Dr. Kenneth Blaylock, Assistant Dean for Graduate Medical Education at MCV. Allowing for three percent attrition annually, specialties appearing to require major increases in resident numbers are Family Practice, Internal Medicine, Pediatrics and Psychiatry. Small increases are

required in Ear, Nose, Throat, Eye, Anesthesia, OB-GYN and Physical Medicine, and in the supraspecialties of Pediatric Neurology and Allergy. No expansion of residencies is required in other fields.

Recommendations to the Medical Facilities Commission by Dr. Pearse were:

1. The three medical schools in the state should assume corporate responsibility for graduate medical education.

2. Graduate medical education positions should equal, in each of four years, medical school graduates from Virginia's medical schools.

3. A minimum of 111 general medical positions per year, or forty percent, whichever is larger, should be provided in primary physician fields.

4. Direct state appropriation should support the educational component (1/3 time), of graduate medical education. The patient service component (2/3 time) should be provided by health care dollars, whatever their source.

In 1967, the state of Indiana initiated a program to support graduate medical education in community hospitals through grant-in-aid and per capita incentives to hospitals. Indiana was graduating one of the largest classes of medical students in the country and retaining a low percentage of the graduates. In the past three years the population increase in Indiana was only three percent while the number of licensed physicians increased by ten percent. The graduate medical education positions have an eighty-four percent fill rate with American graduates. According to the AMA publication Medical Education in the United States - 1971-72, as of December, 1971 Indiana had a total of 555 interns and residents in the state, of whom 341 were graduated from medical school in Indiana. In comparison, according to the same report, Virginia had a total 965 interns and residents, of whom only 214 were graduated from medical school in Virginia.

Illinois is another state which is a major exporter of physician graduates; it ranks fourteenth highest in the production of doctors per inhabitant and sixteenth lowest in receiving new medical practitioners. In a report on "Education for Health Fields in Illinois," it was recommended that 200 new first-year intern positions be created and the residency programs be expanded.

In comparison, Virginia has already made substantial progress in creating the family practice residency programs with planned expansion in both programs. As Dr. Pearse indicates, the major increases in residency positions needed are in the primary care areas and psychiatry with small increases in some other speciality areas.

## PHYSICIANS' CHOICE OF PRACTICE LOCATION

The concern, both of the average citizen and legislators, is locating physicians in areas of need, particularly in rural areas. Why a physician chooses a particular location is very difficult to determine.

According to a recent article in the Journal of Medical Education (February 1973) by Pierre de Vise, four types of life style goals were identified which influenced a physician to practice in a certain location. These identified were:

1. a good environment for rearing children and satisfying the social needs of the wife;
2. good climate states where outdoor recreation is available all year;
3. an area where he can obtain the most material benefits fo his medical skills;
4. accessibility to a hospital;
5. opportunities for interaction with other physicians; and
6. accessibility to physician specialists and a university medical center or regional medical center.

In 1967 the American Medical Association's Council on Rural Health surveyed a random sample of physicians practicing in non-metropolitian areas of the nation. According to the report of this study, the responses of 1,853 physicians indicated that a significant relationship exists between the size of the place where the physician practices and the size of the place where he was reared.

> Smalltown physicians and their wives had predominantly smalltown backgrounds, and physicians in non-metropolitan cities of 25,000 or more were generally from cities of that size.

> Factors which influenced physicians to come to their present locations are obviously complex. Physicians may be influenced by some particular individual characteristic (liked the town when driving through) or by situational factors (war, depression). But certain patterns did emerge. The most frequently mentioned influences were best opening when ready to practice, geographic preference, and family and friends. In finding a location, either hometown preference or suggestion of friends was most often listed, followed by place of internship nearby as well as assistance of State and AMA physicians' placement services.
>
> Access to continuing medical education programs and opportunities for professional growth were of concern to physicians in the sample, particularly to those practicing in isolated rural counties. They also viewed hours of practice, medical facilities, and personnel available, and emergency medical facilities as problems. They and their families missed the cultural and social opportunities found in urban areas.
>
> On the whole, the physicians in rural America indicated satisfaction with their community life and medical practice. However, there was more dissatisfaction with community life and practice in the isolated rural counties (28 percent) than in the more populated non-metropolitan counties (11 percent).
>
> Implications for medical school admission committees suggest the importance of giving consideration to admitting more medical students with a rural background. In addition, medical schools, hospitals, and other agencies, in cooperation with medical societies, should study new methods of making available continuing medical education programs for physicians practicing in rural communities.

The Virginia Advisory Legislative Council's "Report on the Shortages of Family Physicians" included an extensive study of the origin of students admitted to the two state supported medical schools. According to this report, "it is apparent that only one in five rural boys will return to a rural area to practice. The rest migrate to ruban areas and become specialists. For graduates of the two schools from urban areas and from out-of-state, less than five percent will ever practice in a rural area in Virginia."

Rural areas do not generate as many applicants to medical schools as do urban areas. Dr. William O'Brien at the University of Virginia, who has made several studies related to the shortage of physicians for rural areas and applicants to medical schools from rural areas, has now undertaken a project to work with students in rural high schools. According to the proposal, "the basic concept we propose is that much of the deficit in rural candidates is simply due to lack of knowledge of opportunities, and lack of courage to try a medical career. This experiment would test that concept in a controlled experiment." A more detailed description of the project is found in Appendix VII.

At least one state (Pennsylvania) has had discussions regarding requiring every medical student to sign an agreement to locate in the state or repay the state for its cost for his education. No legislation has been introduced to require this since it is not felt to be a satisfactory alternative to other ways to encourage physicians to practice in an area. The constitutionality of requiring such an agreement is felt to be questionable.

The individual community's responsibility in planning for health care services has been given considerable attention by the American Medical Association's Council on Rural Health. Several publications are available from the AMA which provide guidelines which communities can utilize in evaluating their needs and assist in planning to meet these needs.

## PHYSICIAN SUPPORT PERSONNEL

The shortage of physician manpower in the United States along with an increased demand for health services has encouraged health planners to study alternative approaches to the delivery of health care and better utilization of the health manpower in the delivery of health services. For the purposes of this report, the different approaches being tried in the reorganization of health services, such as Health Maintenance Organizations, will not be discussed.

The two main categories of health personnel being utilized to extend the primary care services in communities are the nurse practitioners and the physician assistant. Both state-supported medical schools have established joint programs with the nursing schools in their universities for the preparation of nurse practitioners. The pediatric nurse practitioner program at the University of Virginia was the first such program in Virginia. This was followed by an adult nurse practitioners program at the University of Virginia in 1969, which has been changed to a family nurse practitioner program. The Medical College of Virginia - Virginia Commonwealth University is now establishing the family nurse practitioner program. The State Health Department has initiated a program to utilize public health nurses in an expanded role in areas of the state where physicians are not available in health centers or clinics or in areas where physicians are in short supply. Job classifications are already established for the State Health Department to employ two levels of nurse practitioners (see Appendix VIII). Other states have found the uses of nurse practitioners an effective way to provide more health care services, particularly in the inner city and in rural areas.

The physician assistant is being utilized by some physicians in Virginia in an effort to provide health services to more people. The American Medical Association's Council on Medical Education has established "Essentials for an Approved Educational Program for the Assistant to the Primary Care Physician." These were approved by the American Medical Association's House of Delegates in December, 1971.

The use of other health personnel in the delivery of some primary care offers the potential for increasing the health care services available and at the same time provides for more effective utilization of the physician's time. However, the availability of a physician who is knowledgeable in the utilization of either a physician assistant or a nurse practitioner is essential.

More detailed information about physician assistants and nurse practitioners will be provided in reports to the Governor and General Assembly later in 1973. The State Council of Higher Education for Virginia is completing a study of the education of paramedical personnel. The State Health Department is completing a report on legislation required for the practice of paramedical personnel. Both of these reports are to be completed prior to November 1, 1973.

Various other categories of health personnel are essential in providing health care services. At the present time, it is very difficult to determine the current supply of these various categories.

The State Council of Higher Education and the Advisory Committee on Education for Health Professions and Occupations recognize their responsibility for "planning and coordinating educational programs for all health professions and occupations." With the 1973 $50,000 appropriation from the General Assembly, the State Council has initiated a study of health manpower. This study has two basic goals:

1. To develop a statewide plan for the education of health manpower.

2. To develop an information system for health manpower.

In achieving these goals, the State Council will need to determine current and future supply, current and future requirements, and the costs and financing involved in providing Virginia with sufficient health manpower to meet the health care needs of the citizens of Virginia. Since the planning process is an on-going and a major function of the State Council, an information system for health manpower is essential to the planning and decision making process.

## SUMMARY

Although Virginia still has a shortage of physicians, particularly in primary care, positive steps have been taken to solve this problem. Unfortunately it is too early to evaluate the impact these changes will have in increasing the supply of physicians in areas of need.

Both state supported medical schools have increased the number of students admitted each year since 1966. The University of Virginia will admit 126 in 1973 compared with the seventy-eight admitted in 1966. The Medical College of Virginia will admit 146 in 1973 compared with the 112 admitted in 1966. Although there are still some acceptances pending, approximately 78 percent of the students accepted will be Virginians. With the Eastern Virginia Medical School admitting a class of twenty-four this fall, 296 students could be graduated in 1977 from medical schools in Virginia. According to the report prepared by Dr. Warren Pearse, by 1978 this number could increase to 318, which would be almost adequate to meet the national goal of 15,000 graduates by 1978. Based on estimated national population and estimated Virginia population, Virginia graduates should be 336 in 1978.

Comparing the number of first year medical students per 100,000 population in the state and the average number of physicians who received their initial license in the state per 100,000 population, it can be seen that Virginia is also an importer of physicians from other states. According to the report of input-output data compiled by Henry Mason, Research Associate, American Medical Association, Virginia enrolled an average of 3.54 first year medical students per 100,000 from 1961-66, ranking thirty-eighth. During the period of 1966-71, Virginia issued 4.23 new licenses per 100,000 population, ranking fifteenth. This report, which utilizes 1961-66 data for entering students shows that Virginia is one of the states whose medical schools admit large numbers of out-of-state students, award first licenses to a similar number of out-of-state students, and enjoys a favorable balance between students and new licenses. Since 1966, both medical schools have increased the size of their entering classes and have admitted a higher percentage of Virginia students. If the rate of new licentiates from in-state schools increases from the 71.1 percent reported from 1966-71, Virginia can anticipate having more physicians in the state.

Both state medical schools have established well recognized family practice programs which are attracting large numbers of applicants for residency positions. The family practice programs have developed strong relationships with family practitioners throughout Virginia, particularly with the preceptorship program. Respected family practitioners have been attracted as faculty for these programs, which some authorities have indicated is essential to the successful recruiting of family practitioners. The General Assembly of Virginia deserves much credit for their wisdom in funding these programs.

Through the efforts of Dr. Fitzhugh Mayo, the location of primary care physicians and areas with deficits have been clearly identified. This information is valuable in planning new programs to produce primary care physicians, in locating candidates for medical schools and in assisting physicians planning to locate in Virginia. The project Dr. William O'Brien is conducting with high school students in rural areas can provide valuable information about candidates for medical schools from these areas. The increased number of state medical scholarships now being utilized will increase the number of physicians staying in Virginia in areas of need even if the percentage of physicians repaying by practice does not increase substantially.

The issue which now seems most important is providing sufficient graduate medical education positions based on the types of physicians needed in Virginia. Both medical schools have determined the areas which need to be expanded and they should be supported in their efforts to provide the types of physician needed in Virginia. Financial support from the Commonwealth for graduate medical education will be essential for the medical schools to provide the appropriate number and specialities needed in the Commonwealth. Since the need is greatest in the primary care areas (first contact physicians), special emphasis must be given to these areas.

Both medical schools, in cooperation with the schools of nursing in their universities, have planned or established nurse practitioner programs for expanding the role of the nurse in primary care. Other states have found this to be a successful way to provide more primary care in areas of need. These programs have been supported by various types of funding. If these programs are to be continued, state funding will be needed.

## RECOMMENDATIONS

I. The medical scholarship program was reviewed carefully by the Virginia Legislative Advisory Council in the study made of the "Shortage of Family Physicians." The recommendation was made to increase the amount of the State Medical Scholarship from $1,500 to $2,500 with forty such scholarships at the University of Virginia and the Medical College of Virginia. The 1972 General Assembly increased the amount to $2,500 and designated thirty-three scholarships for the Medical College of Virginia and twenty-seven for the University of Virginia. The increased number of scholarships and the amount of the scholarship have not been in effect long enough to evaluate the need for any changes. It is recommended that the medical scholarship program be continued at the same level of support.

II. The current standard utilized for the designation of an "area of need" should be reviewed in terms of the separation of "primary care physicians" from the total physician population. Areas of the State may indeed have what appears to be ample physicians per unit population and still have a deficit of primary care physicians. The State Council of Higher Education has initiated a study of health manpower requirements for Virginia. A major goal of this study is to establish an on-going health manpower information system which will make data available to state agencies and other groups in planning to meet the state's health manpower needs. It is recommended that the Commissioner of Public Health utilize the most recent data available in determining areas needing primary care physicians.

III. There is a great need to determine which kinds of applicants to medical school are most likely to practice primary medicine in areas of need within the state. Some psycho-social characteristics have already been tentatively identified; these should be verified by studies of medical school graduates, and others should be sought. Once this determination has been made, admission policies should be formulated so that appropriate numbers of potential primary care physicians are admitted to Virginia's medical schools. The schools of medicine, working in cooperation with the State Council staff and other appropriate agencies, should be directed to initiate the studies necessary to make the recommended determination.

IV. Increasing the number of medical students at each medical school and increasing the number of Virginians admitted to the medical schools will not necessarily increase the supply of primary care physicians available to the citizens of Virginia. Studies have demonstrated that where the graduate of a medical school takes his residency program has a much greater impact on where he practices than where he went to medical school. It is recommended that the General Assembly provide financial support for additional graduate medical education positions. These positions should be supported in specialities requiring the greatest increase in residency positions and, where possible, in locations in which such specialities are needed. This will provide an adequate and well-distributed supply of the specialities needed in Virginia.

V. Financial support should be provided for nurse practitioners programs now established in both the state university medical and nursing schools.

# V. DETERMINING STATE LIMITATIONS ON OUT-OF-STATE ENROLLMENT IN PUBLIC INSTITUTIONS OF HIGHER EDUCATION

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# DETERMINING STATE LIMITATIONS ON OUT-OF-STATE ENROLLMENT IN PUBLIC INSTITUTIONS OF HIGHER EDUCATION

## INTRODUCTION

There are two inter-related areas of concern encompassed in an attempt to determine state limitations on out-of-state enrollment. One is the actual numerical determination of each state's out-of-state enrollment; the second is identifying those states which attempt to exercise control over out-of-state enrollment in some sort of legislated or non-legislated manner. The latter question also requires an investigation into the method employed to accomplish the control; that is, does the power reside in the state's governing or coordinating board or in some other agency, or does the state's legislature exercise the power to set quotas or percentages?

As the data for this investigation was not readily available, a survey instrument was designed and circulated to the higher education executive officer in each state. A copy of the survey instrument is attached, and the returned questionnaires are available for review. At the time of this analysis, 27 states had responded, ranging in size and diversity from New York to Wyoming. A total of seven southern states returned questionnaires. Additional responses are anticipated from several other states. Appendix A contains a list of the state that responded.

## THE QUESTIONNAIRE

The first three questions of the survey instrument were designed to solicit raw data on the numbers of students, differentiated on the basis of "in-state" and "out-of-state," enrolled in each state's public institutions. The determination was by "type of institution ("type" being defined as "senior," "community-junior," and "technical-trade").

Questions four through eight were intended to delineate the extent of controls or limitations imposed. The controls were requested according to the following categories: the state's public system; types of institutions; undergraduate students; graduate students; professional students.

The next two questions sought to determine when the controls were initially established and by what means (the state's Governor, Legislature, Higher Education Board, etc.).

The last two questions were attitudinal ones designed to elicit the feeling of the respondent on the necessity for imposing controls and to summarize his analysis of the reaction of students, faculty, legislators, and citizens in his state toward whatever controls, if any, had been established.

## THE RESULTS OF THE QUESTIONNAIRE

The data as to size was deemed useful in determining the kind and scope of higher educational system found in a specific state. More importantly, however, it was thought that the data would enable a contrast to be made between in-state and out-of-state enrollments and to know whether a state "has a problem" with, in terms of having an excess number of, out-of-state students. The existence of a "problem" was not always possible to identify, however, for some states are intentionally limiting out-of-state graduate enrollments due to lack of facilities, while others are attempting to build up their graduate programs and thus are encouraging increased out-of-state enrollments. Without doubt, the number of out-of-state students enrolled has a distinguishable correlation to the availability of student facilities. Thus, if a state finds itself over-built and facing the prospect of a decreasing pool of potential, in-state students, the chances suddenly increase, regardless of previously-enforced restrictions, for an out-of-state student to gain admission. Since, as noted, facilities now seem to be much more readily available on the undergraduate and graduate levels (with some exceptions, such as Wyoming), some states are currently relaxing their out-of-state restrictions. In the professional schools, the opposite is currently true, and almost all states seem to be wrestling with the question of how to increase the availability of spaces and facilities in these schools.

The data as to in-state, out-of-state enrollments is found in chart form in Appendix B. An examination of the chart reveals a wide variance between the state with the lowest combined percentage of out-of-state students (New Jersey: 1.8%) and that of the highest (New Hampshire: 38.4%). The percentage for New Jersey is somewhat distorted due to the non-availability of statistics pertaining to its graduate/professional out-of-state enrollment. However, indications are that this percentage is low, for, as the respondent from New Jersey indicated, "In a few cases, professional schools of Rutgers University are actively recruiting out-of-state students."

The relative position of a state like New Jersey may be viewed as somewhat paradoxical to individuals concerned with seeking an answer to the problem of out-of-state enrollments. The state has long been noted for its migration of students, particularly southward to schools in Virginia and North Carolina. Yet, it currently seems to be actively recruiting out-of-state students.

The relative status of New Hampshire proves even more interesting, for the state is, as will be noted shortly, one of only five survey respondents that imposes a statewide control (in this case on out-of-state students at its major public institution, the University of New Hampshire). Its high undergraduate out-of-state enrollment, which exceeds the 25% legislated limit at the University, indicates that either the limit is not enforced or the state's remaining public institutions have exorbitant out-of-state enrollments.

Only five of the 27 states impose statewide controls. They are Hawaii, Kentucky, New Hampshire, Oregon, and Tennessee. Pennsylvania, however, does have a 5% limit on out-of-state students at state-owned colleges, a rule which is not at all rigidly enforced, and North Carolina has a 15% limit on students in entering classes at six of its public institutions. (The North Carolina rule is a non-legislated guideline imposed before the consolidation of all the state's public institutions under one board.) The Missouri coordinating board has recommended that by the 1976-77 academic year no senior public institution should exceed a 15% non-state enrollment, but no binding requirement has been effected.

Of the five states with specific controls, Hawaii has a 10% limit on non-residents in its community colleges and a 20% control on non-residents in its university. Kentucky has a 15% statewide limitation and a 20% restriction for individual institutions. It was noted that this policy is presently being relaxed, due to economic conditions. New Hampshire, a state which has imposed some controls since 1925, has a 25% limit applicable to undergraduates at the University of New Hampshire, while Oregon's 15% out-of-state undergraduate limit at any one institution has never been observed, due to lack of sufficient in-state students. Tennessee's 15% limit on undergraduate students is being enforced, and, in addition, the state has assisted in the internal institutional development of law and medical school limits so that the law school has only a 10-15% out-of-state enrollment and the medical school presently has no out-of-state students.

Tennessee's concern for its professional school enrollments, especially those in law and medicine, mirrors similar concerns evidenced by the other states responding. Many of the controls applied to date, however, are of an informal, rather than mandatory nature, with the institutions assuming some responsibility for giving preference to state residents. Such informal controls seem to be operating in the medical and law schools of Arkansas, North Carolina, New Mexico, and North Dakota, as well as in Connecticut's medical school. (It should be noted here that Virginia's law and medical schools have also moved toward establishing informal quotas. Although no formal policy has been imposed, informal guidelines have been in existence for some time.)

Specific controls have been placed on the medical schools of Georgia and Oklahoma, and Oklahoma has followed suit by placing an identical limit (15%) on its law school. Actually, Georgia's limit of 5% on out-of-state enrollment in its medical school represents a relaxation of its previous policy, in effect until 1971, allowing only Georgia residents to enroll. Although the individual institutions in Kentucky determine their own policy with respect to out-of-state enrollments in their professional schools, the students are included under the same statewide and institutional controls previously referred to for that state (15% and 20%, respectively). Thus there is an indirect state control imposed on the professional schools.

With minimal exception, the controls that have been established have come as a result of action by state boards charged with coordinating or governing higher education or have been voluntarily imposed by the institutions. Legislators and Governors have generally refrained from passing statutes or issuing executive orders to limit enrollments, although it is evident from the responses that both groups have been influential in such decisions, especially in supporting the actions taken by the coordinating or governing boards. Appendix C demonstrates the manner in which controls were imposed by the states presently employing them.

Finally, it seems that some states are attempting to control out-of-state enrollments through means other than the imposition of out-right controls. For example, Arkansas, Illinois, and Oklahoma have established higher qualifications for the admission of out-of-state students over in-state. Colorado (except in three junior colleges) and New Hampshire now charge the out-of-state student the full "educational and general" cost of his education. Pennsylvania also has a tuition differential, reflecting full cost, which is applied to non-resident students under a specific legal definition with state-supported institutions. North Dakota also called attention to its high out-of-state tuition rate, while North Carolina indicated that its recently substantially-increased out-of-state rate was making it difficult for some state institutions to attract out-of-state students. South Carolina, too, called attention to recent institutional actions to raise tuition and fees, as well as to institutional imposition of higher out-of-state admission requirements.

The responses to the attitudinal questions are difficult to analyze. On the one hand are those states that indicate they have no problems at this time with the number of out-of-state students enrolled in their institutions. On the other hand are some states that indicate a reluctance to continue educating students from states which allegedly have not provided sufficient resources for their students and have found it necessary to export them to other states. Finally, some of the states exporting the largest numbers of students have among the most liberal out-of-state requirements for admission with the claim that either their institutions have room for out-of-state students or that a diversity of students is important (eg. New York and New Jersey). Perhaps the following concise description, taken verbatim from one of the questionnaires, is the best summary of the diversity of attitudes surrounding this problem:

1. Legislators feel a compulsion to take care of in-staters. Out-of-staters should pay their own way largely.
2. Citizens probably feel the same way.
3. Students, so long as they can get in the school of their choice, want openness to prevail.
4. Faculty like a broad mix.

# CONCLUSIONS

Based upon the responses to the survey, only a small of states have imposed formal, statewide controls on out-of-state enrollments. A number, including Virginia, are attempting to resolve any problems that have occurred (and these seem currently observable primarily on the professional-school level) by voluntarily imposing informal restrictions appropriate to a particular state and its institutions. This avenue of approach appears most feasible if the interests of both the citizens of the state and the institutions in the state are to be served. However, if the informal controls are not strictly adhered to or do not result, on balance, in satisfying the needs of the state, formal restrictions may then become necessary. In this event, the controls should be imposed by action of the state's coordinating/governing board, which should be in the best position to monitor, enforce, and constantly re-evaluate the need, rather than through legislation, which may not be responsive to the changing situation and may become unenforceable.

# APPENDIX A

## States Responding To The Questionnaire On Limiting Out-of-State Enrollments

1. Arkansas
2. Colorado
3. Connecticut
4. Georgia
5. Hawaii
6. Illinois
7. Indiana
8. Kansas
9. Kentucky
10. Louisiana
11. Mississippi
12. Missouri
13. New Hampshire
14. New Jersey
15. New Mexico
16. New York
17. North Carolina
18. North Dakota
19. Oklahoma
20. Oregon
21. Pennsylvania
22. Rhode Island
23. South Carolina
24. South Dakota
25. Tennessee
26. Wyoming
27. *

---

*This state was not identified by the respondent.

## APPENDIX B

### Out-of-State Enrollments Shown As Percentages of Total Enrollments, By Institutional Level, For States Responding

| State | Combined Out-of-State Enrollment | Technical/Trade Out-of-State Enrollment | Comm. College Out-of-State Enrollment | Undergraduate Out-of-State Enrollment | Graduate/ Professional Out-of-State Enrollment |
|---|---|---|---|---|---|
| Arkansas | 9.9% | 10.00 | 4.12 | 10.45<br>[Breakdown not available] | |
| Colorado | 20.9 | — | 5.25 | 24.06 | 38.48 |
| Connecticut | 6.9 | .002 | 1.00 | 8.2 | 16.7 |
| Georgia | 14.0 | — | 6.19 | 15.52<br>[Breakdown not available] | |
| Hawaii | 10.3 | | 6.75 | 8.87 | 26.08 |
| Indiana | 13.7 | 0.00 | 13.46 | 10.34 | 29.41 |
| Illinois | 1.9 | — | 0.28 | 2.04 | 12.83 |
| Kansas | 16.0 | — | — | 16.0<br>[Breakdown not available] | |
| Kentucky | 14.3 | ---- | 2.22 | 16.34 | 17.23 |
| Louisiana | 8.0 | 0.36 | 1.82 | 10.82 | 23.30 |
| Mississippi | 8.1 | 0.84 | 1.70 | 10.55 | 20.75 |
| Missouri | 5.2 | ----- | 1.34 | 3.78 | 17.90 |
| N. Hamp. | 38.4 | ---- | --- | 37.41 | 47.78 |
| N. Mexico | [Specific figures not available. Respondent indicates less than 5% out-of-state.] | | | | |
| N. Jersey | 1.8 | ---- | .18 | 3.00 | -- |
| N. York | 2.8 | 2.40 | 1.70 | .19 | 9.53 |
| N. Carolina | 10.3 | 2.44 | 3.83 | 11.72 | 31.06 |
| N. Dakota | 14.45 | 9.05 | 9.05 | 12.08 | 41.67 |
| Oklahoma | 8.6 | ----- | 2.90 | 8.27 | 21.11 |
| Oregon | 8.7 | 12.46 | 9.44 | 14.13 | 33.82 |
| Penn. | 10.0 | ---- | .28 | 9.08 | 19.22 |
| Rh. Is. | --- | ---- | 1.62 | [Not available] | [Not available] |
| S. Carolina | 14.48 | --- | ---- | 14.48<br>[Breakdown not available] | |
| S. Dakota | 14.8 | ---- | ---- | 14.82<br>[Breakdown not available] | |
| Tenn. | 10.3 | 9.45 | .76 | 11.16 | 16.25 |
| Wyoming | 22.8 | --- | 8.10 | 25.42 | 47.13 |
| (State not ident.) | 14.2 | --- | 3.5 | 14.1 | 24.80 |
| Mean % | 12.033 | 5.222 | 3.886 | 12.513 | 23.596 |
| Virginia | 14.6 | | 5.1 | 18.2 | 28.5 |

## APPENDIX C - Respondents Imposing Controls And Manner By Which Imposed

| States Imposing Statewide Controls On Out-of-State Enrollments | Manner By Which Imposed | Control(s) And Level(s) At Which Imposed |
|---|---|---|
| Hawaii | Coordinating/governing board | 10% for community colleges; 20% for the university campus |
| Kentucky | Coordinating/governing board | Statewide undergraduate enrollment should not exceed 15%, individual institutions may not exceed 20%. |
| New Hampshire | Legislation | 25% for undergraduates. |
| Oregon | Coordinating/governing board | 15-16% on undergraduates at any one institution; in the professional schools, in-state & WICHE students receive preference. |
| Tennessee | Coordinating/governing board | 15% for undergraduates; state residents given preference in medical school(s); 10-15% established for law school. |

| States Imposing Partial Or Specific Controls | Manner By Which Imposed | Control(s) And Level(s) At Which Imposed |
|---|---|---|
| Connecticut | Voluntarily by the Univ. of Conn. | 10-13% for undergraduates; more flexible controls resulting in 17-20% for graduates; emphasis on state students in law and medicine |
| Georgia | "Requested by the institutions and approved by the Board of Regents" | 5% for medical school. |
| North Carolina | Coordinating/governing board and institutional | 15% for entering classes in six public institutions; 10% in entering medical classes; 15% in law. |
| Oklahoma | Coordinating/governing board | 15% for medicine and law. |
| Pennsylvania | Voluntarily by institutions (primarily) | Limitations are determined by each institution; state policy of 5% at "state-owned colleges" not rigidly enforced. |
| State not identified | Voluntarily by the institutions; method affirmed by coordinating/governing board | Limitations made in medicine, law, and nursing. |

APPENDIX C - (Continued)

| States Employing Informal Controls On Out-of-State Enrollments | Level(s) At Which Attempted Or Policy Attempted |
|---|---|
| Arkansas | Informal institutional attempts in law and medicine. |
| Kansas | Voluntarily by institutions; "General rule of institutions is that all qualified Kansans must be accepted first." |
| New Mexico | ". . .the admissions process actually produces less than 10% non-residents admitted in medicine." |
| North Dakota | "Admissions give priorty to residents" (in medicine and law). |
| Wyoming | Graduate enrollments limited by the institutions. |

## A QUESTIONNAIRE ON STATE LIMITATIONS ON OUT-OF-STATE ENROLLMENT IN PUBLIC INSTITUTIONS OF HIGHER EDUCATION

This survey is being conducted by the State Council of Higher Education for Virginia at the request of the Virginia General Assembly's Commission on Higher Education. Its purpose is to gather both data and widespread opinion on the question of restricting out-of-state enrollment in public institutions of higher education. Should you desire that any of your responses be held in confidence, either by the State Council or the Commission on Higher Education, please so indicate in front of the specific question.

Your cooperation in this survey is very much appreciated by both the State Council and the Commission.

1. Please indicate, by level (undergraduate and graduate), the total number of in-state and out-of-state students enrolled in your state's public senior institutions.

______ In-state undergraduate
______ In-state graduate
______ Out-of-state undergraduate
______ Out-of-state graduate

2. Please indicate the total number of in-state and out-of-state students enrolled in your state's public two-year community/junior colleges.

______ In-state students
______ Out-of-state students

3. Please indicate, if applicable, the total number of in-state and out-of-state students enrolled in your state's public technical or trade institutions.

______ In-state students
______ Out-of-state students

4. Does your state place any control or limit on the number of out-of-state students that may enroll in the state's public system of higher education? If "yes," please indicate that control/limit under "comments."

______ YES
______ NO

Comments: ______________________________

______________________________

______________________________

5. Does your state place any control or limit on the number of out-of-state students that may enroll in any of the types of public institutions referred to above? If "yes," please indicate that control/limit and the type(s) of institutions under "comments."

______ YES
______ NO

Comments: ______________________________

______________________________

______________________________

6. Does your state place any control or limit on the number of out-of-state undergraduate students that may enroll either in the public system or in individual public institutions? If "yes," please explain that control/limit under "comments" and indicate whether it is applicable to the system or to each individual institution.

________ YES
________ NO

Comments: ________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

7. Does your state place any control or limit on the number of out-of-state graduate students that may enroll either in the public system or in individual public institutions? If "yes," please explain that control/limit under "comments" and indicate whether it is applicable to the system or to each individual institution.

________ YES
________ NO

Comments: ________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

8. Does your state place any control or limit on the number of out-of-state students that may enroll in any specific professional schools or programs.

________ YES
________ NO

If "yes," which of the following are included, and what are the control(s)/limit(s):

________ Medicine
________ Law
________ Nursing
________ Business
________ Education
________ Other
________

Comments: ________________________________________

________________________________________

________________________________________

9. If your answer is "yes" to either 4, 5, 6, 7, or 8 above, please indicate when the control(s)/limit(s) were initially established.

____________________________________________

____________________________________________

____________________________________________

____________________________________________

10. If your answer is "yes" to either 4, 5, 6, 7, or 8 above, were the control(s)/limit(s) accomplished through (1) legislation; (2) executive order by the governor; (3) imposition by the statewide coordinating/governing board; or (4) voluntarily by the institutions? Please check, as appropriate:

Legislation ________________
Executive order ______________
Coordinating/governing board ______
Voluntarily by the institutions ______
Other __________________

Comments: ____________________________________

____________________________________________

____________________________________________

____________________________________________

____________________________________________

11. Do you view the imposition of control(s)/limit(s) as necessary in order to guarantee the availability of sufficient space to your own in-state students?

__________ YES
__________ NO

Comments: ____________________________________

____________________________________________

____________________________________________

____________________________________________

____________________________________________

____________________________________________

____________________________________________

12. If possible, please briefly indicate the reaction of students, faculty, legislators, and/or general citizens to the imposition of out-of-state student control(s)/limit(s).

Thank you, again, for your participation in this survey.